Medicine 2026 – poster competition

Online category

Royal College of Physicians

MED26

WHEN ANGIOGRAPHY IS NOT ENOUGH: STENT UNDEREXPANSION CAUSING NSTEMI DETECTED BY IVUS

Dr.Akarsh Jose, Dr.Faisal Shehzad

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Background

- Stent underexpansion drives adverse outcomes: recurrent angina, stent thrombosis and in-stent restenosis.
- Causes include:
  - Heavily calcified vessels
  - Ostial placement issues
  - Incorrect sizing or suboptimal stent choice

Clinical case timeline

- 60 year old male with recent CAD
- Index event: PCI with Right coronary artery (RCA) stent implant
- After 3 months present with atypical chest pain. Serial ECGs showed T wave inversion in V1 and V3 (No dynamic ischemic changes)
- Serial troponin rise 3 to 101- Diagnosed as NSTEMI.
- Treated with subcutaneous fondaparinux, DAPT(aspirin and prasugrel) and high intensity statin.

Angiography vs IVUS

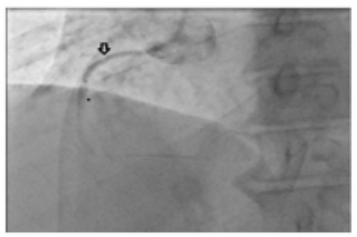

Fig 1a (Pre dilatation) - Focal lesion

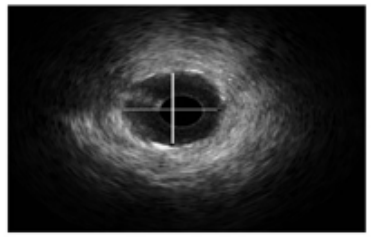

Fig 2a (Pre-dilatation) under expanded stent

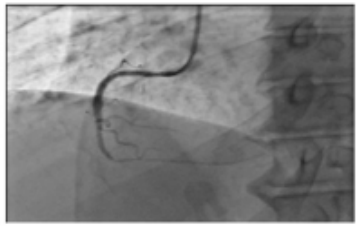

Fig 1b (Post dilatation) –Improved Patency

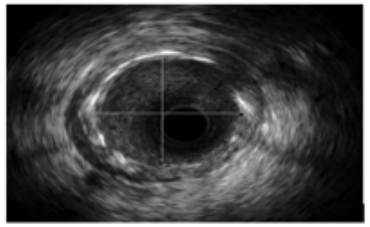

Fig 2b (Post-dilatation) Improved lumen

Angiography showed unobstructed vessels with RCA stent and focal stenosis. IVUS revealed underexpansion of stent missed by angiography.

Intervention: Dilatation by non –compliant followed by drug-eluting balloon achieved optimal stent expansion and apposition.

Discussion

- Stent underexpansion is a highly modifiable risk factor. Coronary angiography alone may satisfactory yet fail to detect these mechanical complications
- IVUS must be integrated to guide post- PCI interventions, optimize stent deployment, and secure long-term patient outcomes. Intravascular imaging is associated with significantly lower rates of:
  - Cardiac death
  - Myocardial infarction
  - Stent thrombosis
  - Target lesion revascularization

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Consent: Appropriate permissions have been obtained for the collection and sharing of all patient data included in this work

SYSTEMATIC REVIEW & META-ANALYSIS · ANCA-ASSOCIATED VASCULITIS

Clinical Effectiveness of the C5a Receptor Antagonist *Avacopan* in ANCA-Associated Vasculitis: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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ANCA-ASSOCIATED VASCULITIS

Necrotizing small-vessel inflammation with neutrophil infiltration & C5a activation

1 Introduction

ANCA-associated vasculitis (AAV) — including GPA and MPA — is characterized by severe small-vessel necrotizing inflammation with significant renal morbidity. Standard immunosuppression carries substantial glucocorticoid toxicity.

Avacopan, a selective oral C5aR1 antagonist, targets complement-driven neutrophil activation central to AAV pathogenesis, offering a steroid-sparing therapeutic strategy.

> **Objective:** Evaluate clinical efficacy of Avacopan vs. placebo in active AAV via pre-registered systematic review and meta-analysis of RCTs.

INCLUDED RCTS (N = 400)

- CLASSIC (Phase II)
- ADVOCATE (Phase III)
- Extension RCT

2 Methodology

- **Databases** — PubMed, Cochrane, Google Scholar — inception to April 2025
- **Eligibility** — RCTs of Avacopan vs. placebo in AAV; ≥1 clinical outcome
- **Quality** — Cochrane RoB-2; independent dual review
- **Analysis** — Random-effects model; I^2 heterogeneity; sensitivity analyses

OUTCOMES

BVAS · Remission · Renal Response · eGFR · UACR · VDI · QoL EQ-5D

PRISMA

Identified 847 → Screened 94 → Full-text 12 → Included 3

3 Results

POOLED OUTCOME SUMMARY — 3 RCTS

OUTCOME	EFFECT MEASURE	95% CI	P-VALUE
BVAS Reduction	MD −13.63	−35.86 to 8.60	0.23
Remission Rate	RR 1.03	0.90 to 1.17	0.68
UACR Change	MD −5.09	−25.22 to 15.04	0.62
Renal Response	RR 1.79	0.66 to 4.81	0.25 ↑
VDI Score	MD −0.17	−0.53 to 0.19	0.34
eGFR Change	MD +1.52	−0.56 to 3.59	0.15 ↑

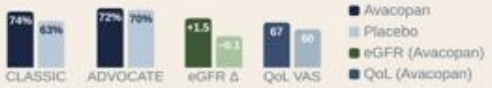
MD=mean difference; RR=risk ratio; random-effects model. ↑ numerically favors Avacopan.

RENAL RESPONSE — SCHEMATIC FOREST PLOT

KEY OUTCOMES AT A GLANCE

BVAS	REMISSION	UACR
−13.63	RR 1.03	−5.09
CI: −35.86–8.60	CI: 0.90–1.17	CI: −25.2–15.0
p=0.23 NS	p=0.68 NS	p=0.62 NS
RENAL RESP.	**EGFR**	**VDI**
RR 1.79	+1.52	−0.17
CI: 0.66–4.81	CI: −0.56–3.59	CI: −0.53–0.19
p=0.25 ↑	p=0.15 ↑	p=0.34 NS

REMISSION & SELECTED OUTCOMES — AVACOPAN VS. PLACEBO



Remission values approximate from trial data. QoL VAS = mean score; eGFR Δ = mL/min/1.73m².

4 Discussion

Non-Significant Primary Outcomes
Absence of significance likely reflects underpowered pooled analyses rather than absent effect. Directional trends consistently favor Avacopan, particularly for renal and QoL endpoints.

Favorable Renal Trends
Two of three RCTs showed numerically superior renal response (RR 1.79; 0.66–4.81; p=0.25). Steroid-sparing mechanism may confer progressive renal benefit beyond observation windows.

Limitations
Few eligible RCTs; heterogeneous glucocorticoid protocols; limited psychosocial follow-up; reliance on EQ-5D-5L-VAS as sole QoL instrument.

Psychological Outcomes
Mental health domain scores showed inconsistent improvement. Long-term steroid reduction benefits may not be fully captured within short trial durations.

5 Conclusion

KEY FINDINGS

No statistically significant differences were observed between Avacopan and placebo across primary efficacy outcomes (BVAS, remission rates, UACR). Consistent numerical trends in renal response and eGFR suggest potential biological activity warranting further investigation.

- **Clinical:** Steroid-sparing role remains relevant; evidence does not demonstrate statistically significant superiority to support standalone use.
- **Future Research:** Larger RCTs; extended follow-up; GPA vs. MPA subgroup analyses; ANCA specificity stratification.
- **QoL:** Multi-domain patient-reported outcomes needed as co-primary endpoints in future trials.

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Ethics Statement

No patient-identifiable data were used in this study. This work constitutes a systematic review of previously published randomized controlled trials and does not require ethical approval.

Vaccination against shingles and prevention of long-term ocular morbidity - a retrospective study of cost implications to the NHS

Alice Ditchfield, Mana Rahimzadeh & Bita Manzouri - Barking, Havering and Redbridge University Hospitals NHS Trust

Barking, Havering and Redbridge University Hospitals NHS Trust

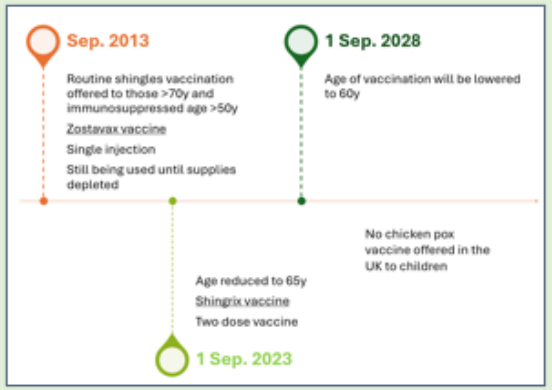
Background

Shingles:

- Caused by reactivation of Herpes Zoster Virus (HZV)
- Initial infection causes chicken pox (children) → virus remains dormant in sensory ganglia of the cranial nerve or dorsal root ganglia
- Reactivation of HZV occurs due to failure of immune defence systems to control the latent replication of the virus
- Incidence related to immune status of individual

Ophthalmic Shingles (Herpes Zoster Ophthalmicus, HZO):

- V1 is the commonest involved branch, affecting skin of forehead, upper eyelid and the orbit
- HZO accounts for 10-20% of all shingles cases
- 10-25% present with keratitis/uveitis/optic nerve palsies
- **Complications**: chronic ocular inflammation, loss of vision, debilitating pain, scarring, secondary bacterial infection



Aim

We undertook a retrospective study determining the number of patients aged 50 - 69y who had attended our hospital with HZO. We determined how many were affected with long term ocular sequelae of this infection and the subsequent costs to the NHS.

Methods

Undertaken at Queen's Hospital, Romford, UK
Retrospective case note analysis of patients who attended eye casualty / main casualty with HZO
Patients aged >50y but below eligible age for NHS vaccination
Excluded patients who were immunosuppressed and therefore eligible for shingles vaccination based on immunosuppression irrespective of age
Data collection between 1st April 2022 – 31st July 2024 (28 months)
We calculated the total cost to the NHS of these patients' investigations and treatment

Vaccination costs

Zostavax: £99.96 for one dose (used until 31st August 2023)
Shingrix: £320 for two doses (introduced from 1st Sept 2023)

Costs to the NHS per patient

Attendance type	Cost
Eye casualty	£192
Main casualty	£250
Clinic appointment as a new patient	£175
Clinic appointment as a follow-up	£76

Medication costs

- NHS indicative prices listed in the BNF
- Total cost of different eye drops used by each patient added = total eye drop cost per patient
- **BUT** only cost of ONE bottle of eyedrops per patient included
- Oral aciclovir: 800mg x 5 per day for 7 days = £3.30
- BNF **cheapest cost** used if multiple brands

Imaging costs

- For patients requiring follow up in medical retina clinic, cost of **ONE** OCT image x number of MR clinic attendances
- OCT costs: £100 per pair of images
- OCT taken for every patient in medical retina clinic
- Excluded imaging in eye casualty or elsewhere

10 long-term complications affecting **9 patients** → 1 in 5 patients in this study
(Post-herpetic neuralgia, corneal scarring, CNIII palsy, ectropion)

Results

- 48 cases of HZO which met inclusion criteria
- **162 total** hospital attendances; average 3.8, range 1 – 23
- 9 out of 48 patients on long term medications

Total cost of investigation and management of 48 cases = **£42,981.98**

For this same cost, a total of **350 individuals** aged >50y could have been vaccinated

	Attendance costs	Medication costs	Imaging costs	Total costs	
Group 1	£29,544.00	£925.81	£900.00	£31,369.81	314 people
Group 2	£10,827.00	£385.17	£400.00	£11,612.27	36 people
			Overall total	£42,981.98	350 people

NUMBER NEEDED TO VACCINATE (NNV)

- Based on an annual incidence of shingles after age 50 being 0.7 – 0.8%
- NNV = **9-10** to prevent one case of shingles
- 350 vaccinations could prevent approximately **35 cases of shingles**

- It would be recommended, based on this small study at a secondary referral centre, that the **age for shingles vaccination in the UK be lowered to 50 years**, in line with many other countries of the world
- Our HZO study demonstrates cost savings to the NHS, noting that HZO accounts for only 10-20% of all shingles cases
- Long term morbidity to young working age patients can be avoided

Insulin Independence in Type 2 Diabetes Following Testosterone Replacement: A Metabolic Effect Beyond Weight Loss

A Rafique [1], K Jadoon [2]
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BACKGROUND

Male hypogonadism is associated with insulin resistance, visceral adiposity, and adverse cardiometabolic risks. [1,2]

Testosterone replacement therapy (TRT) can improve insulin sensitivity and glycaemic measures.

Our case demonstrated sustained insulin independence in T2DM after TRT use for primary hypogonadism

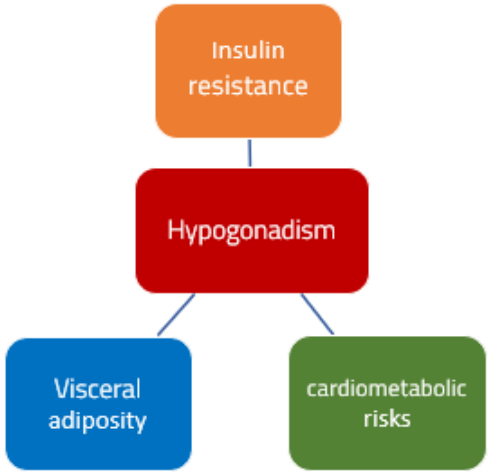

Figure 1: Effects linked to hypogonadism

CASE

50 Y M referred with gynaecomastia to the endocrine clinic.
History of severe orchitis

Biochemical testing showed raised FSH, LH, low testosterone.
Testosterone persistently low (2.0-2.3 nmol/L).

Diagnosis of **primary hypogonadism**

Screened for metabolic factors including diabetes as part of work up.

HbA1c 125 mmol/mol

Commenced on biphasic insulin and testosterone replacement (IM testosterone undecanoate 12 weekly)

C-peptide testing and auto-antibodies negative

Supported **insulin resistant T2DM** rather than autoimmune diabetes

TIMELINE

HbA1c improved to 46 mmol/mol within months of TRT and testosterone maintained in low normal range

Rapid reduction and cessation of insulin

Maintenance on metformin monotherapy alone

		3 month	12 month
BMI kg/m^2	26.5	-	26.6
HbA1c mmol/mol	125	46	51

Table 1: BMI and HbA1c trend

Sustained insulin independence with persistence of HbA1c between 48-51 mmol/mol beyond 12 months

No meaningful weight change to suggest that as the driver

TRT tolerated well with minor adverse effects (acne)

DISCUSSION

TRT can enhance skeletal muscle glucose uptake and reduce visceral adiposity, modulate inflammatory and metabolic signaling [3]

While not a primary diabetes therapy, untreated hypogonadism may be a reversible contributor to insulin resistance in selected patients

Evidence from meta-analyses and studies supports glycaemic improvement with TRT in hypogonadal men [1,2]

Real world registry data suggest diabetes remission may occur in a substantial minority [4]

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3. Obes Rev. 2015;16(7):581-606.
4. Diabetes Obes Metab. 2020;22:2055-2068.

Declaration: Appropriate consent has been obtained to share the anonymised patient data for abstract/poster

Misdiagnosed Seizure-Like Episodes in a Young Male: A Case of Psychogenic Non-Epileptic Seizures

Primary Author: R Mahir, Child Life Foundation
Co Author: AS Syed, University Hospital Southampton NHS foundation Trust

Informed written consent was obtained from the patient for the collection and presentation of clinical data.

Introduction

- Psychogenic Non-Epileptic Seizures (PNES) are episodes resembling epileptic seizures but lack abnormal brain electrical activity.
- PNES are commonly misdiagnosed as epilepsy, with community study misdiagnosis rates ranging from **20–26%**.
- Misdiagnosis often leads to unnecessary investigations, inappropriate treatment, and delayed psychological care.
- These diagnostic challenges are a persistent issue within UK medical practice.

Case Presentation

- The patient is a 20-year-old male with a 6-month history of seizure-like episodes.
- The episodes were refractory to antiepileptic drug previously tried.
- Episodes lasted over 10 mins, features included unresponsiveness, asynchronous movements, and eye closure, but lacked incontinence., tongue biting, or postictal confusion/symptoms.
- Episodes were preceded by stress, poor sleep, and social withdrawal in a patient with a background of generalized anxiety disorder.

Investigations/ Initiial Management

- Initial tonic–clonic–like presentation prompted empiric ceftriaxone and anticonvulsants while ruling out meningitis, encephalitis, structural lesions, and epilepsy.
- Reviewed by neurology; imaging(fig 1) and EEG performed

Table 1

Bloods			
Haemoglobin	139 g/L	Sodium	135 mEq/L
TLC	$5.9X10^3$ /uL	Potassium	3.6 mEq/L
Platelets Count	$182x10^3$ /uL	Calcium	2.47 mmol/L
Creatinine	72.5 umol/L	Magnesium	0.85 mmol/L
EEG	No epileptiform activity detected		
CT Head	Nil Finding		

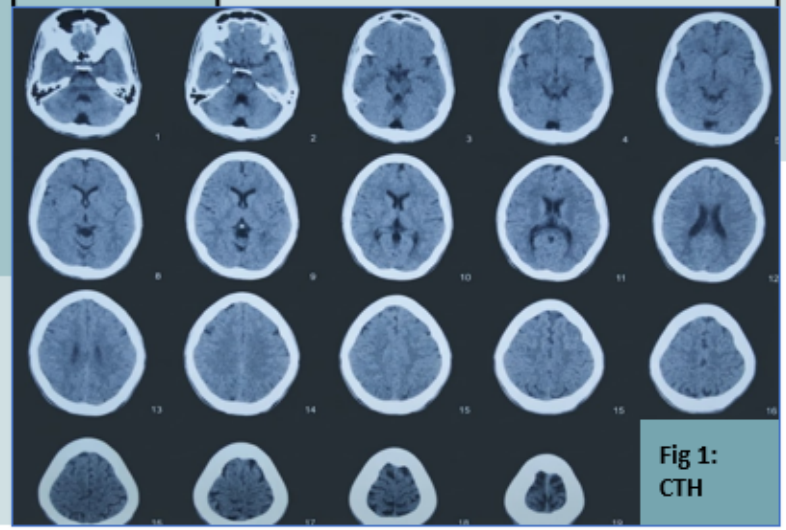

Fig 1: CTH

Further Management and outcome

- Following recurrent episodes and delayed psychiatric, review, diagnosed with generalised anxiety disorder with PNES.
- Started on antidepressant and antipsychotic therapy.
- Complete resolution of episodes, symptom-free for 3 months.

Discussion/ Learning Points

- PNES can closely mimic epileptic seizures, leading to misdiagnosis, unnecessary investigations, and inappropriate treatment.
- Limited awareness and under recognition of psychological factors contribute to delayed diagnosis.
- Diagnostic challenges are compounded by limitations of interictal EEG and lack of access to video EEG.
- Clinicians should consider PNES early for atypical seizures when investigations are normal.
- A multidisciplinary approach involving both neurology and psychiatry is essential to avoid delays.

References

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Adult Fava Bean-Induced G6PD Hemolytic Crisis with Hypoxemia And DAT-Negative Autoimmune Mimicry

(A resource-limited clinical perspective on oxidative hemolysis, immunological mimicry, and the primacy of dietary history)

Shah, Saurav; Tripathi, Amrit; Sah, Ujwal; Jha, Ayush; Rauniyar, Vinayak Raj

INTRODUCTION

- Acute oxidative hemolytic crisis in adults is a rare but potentially life-threatening manifestation of G6PD deficiency, often triggered by ingestion of oxidative substances such as fava beans.

We report a case where 3 simultaneous deceptions- a lying oximeter, negative DAT, and apparent SpO2 of 79%, the diagnostic mind races- almost irresistibly- toward autoimmune hemolytic anemia(AIHA)

THE PATIENT

28-Year-Old Male
No comorbidities
Nepal

3 days prior to admission

- Ingested two bowls of fava beans
- Cola-colored urine — day 1
- Jaundice + generalized fatigue — day 2
- Low-grade fever
- No dysuria, drugs, transfusions, or family history

EXAMINATION FINDINGS

Pallor++| Icterus++| Systemic exam unremarkable

SPO_2 ROOM AIR **79%**	SPO_2 HI-FLOW O_2 **92%** Partial improvement
HEMOGLOBIN **6.6** g/dL — Severe ↓	PAO_2 ON ABG **197** mmHg — Normal lungs

DIAGNOSTIC JOURNEY- MISDIRECTION TO DIAGNOSIS

TRIGGER
Ingestion of two bowls of fava beans → vicine + convicine → oxidative free radicals → RBC membrane damage

PRESENTATION
SpO_2 79% · Cola urine · Jaundice · Hb 6.6 g/dL · LDH 3442 · Bili 5.4 · Retic 2.8%

INITIAL WRONG TURN
ANA positive + DAT negative → AIHA suspected → IV Methylprednisolone commenced

PERIPHERAL SMEAR & URINE

- Normocytic normochromic RBCs
- Few ovalocytes
- Adequate platelets
- No spherocytes — arguing against AIHA
- Urine free hemoglobin: Positive
- Granular casts + proteinuria 3+
- Cola-colored urine (WBC 14–16/HPF)

CLUES

- No spherocytes on smear
- PaO_2 197 mmHg (ABG normal — lungs clear) SpO_2–PaO_2 gap unexplained by pulmonary disease
- **Dietary history of fava bean ingestion 3 days prior**

EXCLUSION WORKUP

- After 3 months-Flow cytometry → PNH excluded and Hb electrophoresis → Normal
- ANA repeat (3 months) → Negative
- ANCA · anti-dsDNA; ENA pannel→

CONFIRMED DIAGNOSIS
After 3 months ,G6PD Activity: 1.9 U/GHB ↓↓

Favism-induced acute oxidative hemolytic crisis

KEY FINDINGS

Parameter	Value
Hemoglobin	6.6g/dl
Platelet count	25,600
Total Bilirubin	5.4 mg/dl
Serum LDH	3442 U/L
Serum ferritin	>1650 ng/ml
G6PD activity	1.9 U/gHB
PaO2	197 mm Hg
Creatinine	Normal

MANAGEMENT & OUTCOME
Steroids discontinued · PRBC transfusion (5 days) · High-flow O_2 · Supportive care · Triggering Agents avoidance Counseling · Full recovery at 3-month follow-up

DISCUSSION

G6PD deficiency is usually silent until triggered by oxidants such as drugs, infections, or fava beans.(1)

Favism occurs due to vicine and convicine, which generate free radicals causing hemolysis.(2)

- This case: Hypoxemia despite normal arterial PaO_2.
- Discrepancy attributed due to severe anemia reducing overall oxygen-carrying capacity, + extensive intravascular hemolysis leading to elevated circulating free hemoglobin.(3)

CONCLUSION & TAKE HOME MESSAGE

LMIC Context:Molecular G6PD testing unavailable.
Diagnosis via Quantitative enzyme assay + Clinical phenotype +Exclusion strategy-a Reproducible model for resource limited settings.

- G6PD deficiency is silent, global, and unforgiving when provoked.
- The trigger is dietary. The diagnosis is clinical. The lesson is permanent.

Written informed consent was obtained from the patient for publication of this poster and any images.

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A Rare Case of Autoimmune Polyendocrine Syndrome Type 2 Unmasked by *SARS-CoV-2* Vaccination in a Patient with Novel *CTLA4* Haploinsufficiency

Anoochana Kameswari Ammanamanchi · 4th Year General Medicine · Asfendiyarov Kazakh National Medical University

CASE REPORT · IMMUNOGENETICS | CTLA4 HAPLOINSUFFICIENCY | APS-2 · ABATACEPT · NOVEL MUTATION

BACKGROUND & GENETICS

INTRODUCTION

Immune checkpoint inhibitors and vaccinations can unmask rare, underlying immunodeficiencies, triggering polyclonal T-cell dysregulation and multi-organ autoimmunity.

CTLA4 HAPLOINSUFFICIENCY

Manifests as an **IPEX-like syndrome** with profound regulatory T-cell (Treg) dysfunction, lymphoproliferation and susceptibility to autoimmune multi-organ involvement.

NOVEL GENETIC MUTATION

Identification of a novel heterozygous mutation:

`CTLA4 c.219C>T (p.G73)`

CTLA4 normally suppresses T-cell over-activation

HYPOTHESIS

Molecular mimicry between the vaccine spike protein and adrenal autoantigens triggered polyclonal T-cell activation, overwhelming the patient's CTLA4 checkpoint defect.

CASE PRESENTATION & LABORATORY RESULTS

ADDISON'S DISEASE
Acute adrenal crisis
3 weeks post-vaccination

TYPE 1 DIABETES
Overt hyperglycaemia
28 mmol/L at onset

PRIMARY OVARIAN INSUFFICIENCY
28-year-old female,
confirmed at presentation

CLINICAL PRESENTATION

A **28-year-old female** presented **3 weeks post Pfizer-BioNTech vaccination** with the clinical triad above. Workup confirmed severe **CD4⁺ T-cell lymphopenia** alongside markedly elevated ACTH and hyperglycaemia, consistent with multisystem autoimmune activation.

Table 1 — Key Laboratory Findings: Presentation vs. 6-Month Follow-up

Parameter	Presentation	6-Month Follow-up	Normal Range
Cortisol (nmol/L)	<20	450	140–690
ACTH (pg/mL)	1200	25	<46
HbA1c (%)	10.2	6.8	<5.7
Treg % (CD4⁺FoxP3⁺)	2.1	3.2 (post-ABA)	5–8
CTLA4 MFI (activated)	28	42	65 ± 10

KEY DIAGNOSTIC MARKERS

Severe **CD4⁺ T-cell lymphopenia** and markedly elevated ACTH confirmed profound immune dysregulation. Simultaneous involvement of three endocrine axes is hallmark of APS-2 in the context of CTLA4 haploinsufficiency.

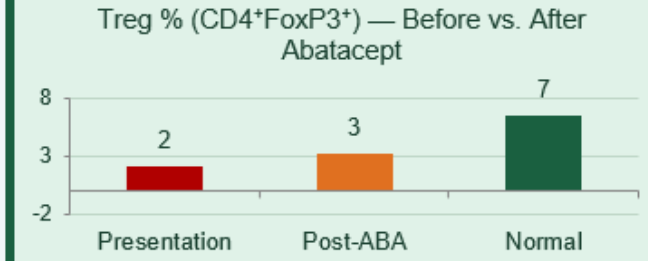
MECHANISM & IMPACT

CONFIRMED MECHANISM

RT-PCR confirmed **35% exon 2 skipping** in patient PBMCs vs. family controls, validating pathogenic splicing from the novel ***CTLA4 c.219C>T*** mutation.

TREATMENT: ABATACEPT (CTLA4-IG)

Restored Treg function by **52%**, normalised inflammatory markers, and stabilised all three endocrine axes — preventing further autoimmune deterioration.



GLOBAL SCIENTIFIC IMPACT

- **First reported case** of SARS-CoV-2 vaccine-triggered APS-2 in a CTLA4 mutation carrier.
- Advocates for routine **checkpoint screening** in vaccine-associated polyautoimmunity.
- Potential to prevent mortality in ~**1 in 20,000** similar cases globally.

FIGURE 1 — RT-PCR GEL: CTLA4 EXON 2 SKIPPING

RT-PCR gel showing CTLA4 exon 2 skipping in patient vs. controls

RT-PCR of patient PBMCs shows a pathological **extra lower band** (Exon 2 Skipping) absent in both family controls. The patient retains the full-length CTLA4 transcript alongside the aberrant shorter isoform, confirming a heterozygous splicing defect. Quantification confirmed **35% aberrant splicing**, reducing surface CTLA4 expression and impairing Treg-mediated peripheral tolerance.

MECHANISM — VACCINE-TRIGGERED APS-2 PATHWAY

Pfizer-BioNTech Vaccine — Spike protein antigen

Molecular Mimicry — Spike vs. adrenal autoantigens

T-Cell Hyperactivation — CTLA4 checkpoint overwhelmed

Endocrine Crisis — Addison's + T1DM + POI

Abatacept — 52% Treg restoration & stabilisation

Declaration: I have obtained the appropriate permissions for collecting and sharing any patient data as a part of the competition. | Case Report · Immunogenetics & Endocrinology

Biallelic Laccase Domain Containing 1 (FAMIN gene) Deficiency Unveiling a Novel Paradigm of IL-23/IL-17-Driven Juvenile Polyarticular Arthritis with Macrophage Activation Syndrome

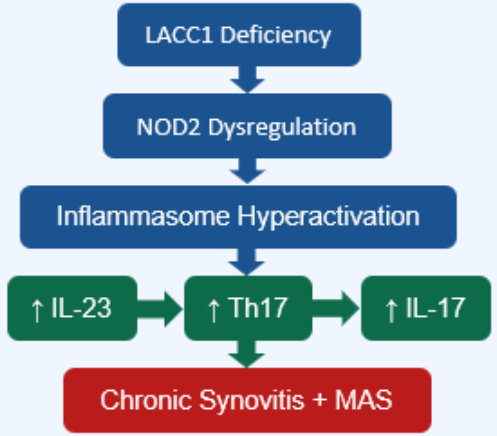
Anoochana Kameswari Ammanamanchi
4th Year General Medicine
Asfendiyarov Kazakh National Medical University

BACKGROUND

LACC1 (FAMIN) MUTATION

- Defective **NOD2 inflammasome** regulation
- Leads to monogenic **JIA mimic**
- Associated with **autoinflammatory flares**

➡️ **Hypothesis:** LACC1 deficiency → IL-23/IL-17 axis hyperactivation → chronic synovitis & MAS susceptibility



CASE PRESENTATION & DATA

CASE SUMMARY

- **14-year-old Kazakh male**, consanguineous parents
- Progression: **Oligoarthritis → Severe Polyarthritis** (DAS28 7.2)
- Trigger: **EBV infection → MAS**

GENETIC FINDING

➡️ Homozygous: **LACC1 p.I270del**

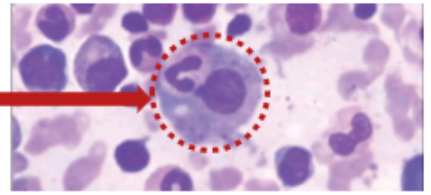
- mRNA expression ↓ **70%** • **No FAMIN protein** detected (Western blot)

Table 1: Cytokine Response to Therapy

Parameter	Baseline	Post-Ustekinumab	Normal
IL-17A (pg/mL)	850	42	<50
IL-23 (pg/mL)	420	18	<30
Ferritin (ng/mL)	28,000	180	20–250
CRP (mg/L)	185	3.2	<5

MAS FEATURES

- Ferritin: **28,000 ng/mL**
- Hemophagocytosis: **Present**
- Triglycerides: **4.2 mmol/L**
- Fibrinogen: **1.1 g/L** ↓



MECHANISM & DISCUSSION

GENETIC IMPACT

Homozygous **LACC1 p.I270del** reduces mRNA by **70%** with complete loss of FAMIN protein — validating biallelic loss-of-function as driver of disease.

SECOND HIT MODEL

EBV Infection → Viral PAMPs
→ NLRP3 activation → **MAS Trigger**

✅ KEY THERAPEUTIC FINDING

Ustekinumab (IL-23 blockade) achieved **92% Th17 suppression** while fully **preserving regulatory T-cell** populations — establishing a precision immunotherapy model for LACC1-driven disease.

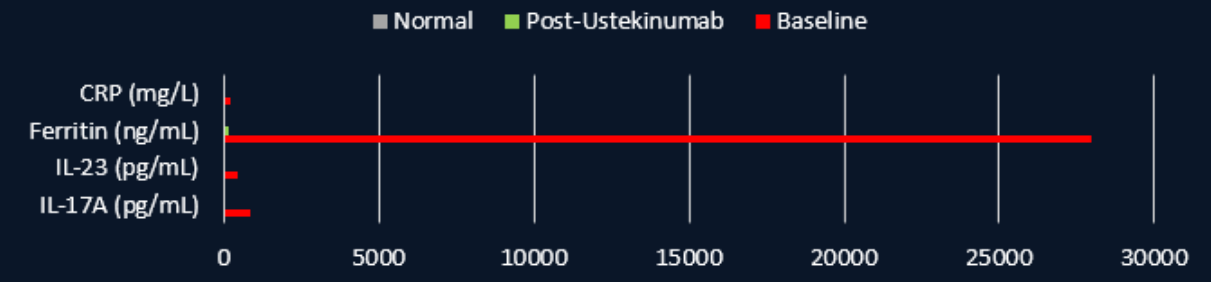
CLINICAL IMPACT

- Identifies **novel monogenic cause** of polyJIA-MAS
- Shifts paradigm: ❌ TNF-focused → ✅ **IL-23 blockade**
- Relevant to **5–10%** of paediatric polyarthritis globally

FIGURE 1: ABSENCE OF FAMIN PROTEIN IN PATIENT MONOCYTES (WESTERN BLOT)

Western blot of patient monocyte lysates shows **markedly reduced FAMIN/LACC1 band** (~60 kDa) in the patient lane compared to both healthy controls. Consistent with **homozygous p.I270del** causing mRNA instability and near-absent protein expression.

GRAPH 1: CYTOKINE REDUCTION FOLLOWING IL-23 BLOCKADE (USTEKINUMAB)



Declaration: I have obtained the appropriate permissions for collecting and sharing any patient data as a part of the competition. | Case Report – Paediatric Rheumatology & Immunogenetics

Home vs Hospital: The Psychological Cost of Admission in Older Adults

Dr A Sameen
Dr A Angelopoulou | Dr P Sarupani
East Cheshire NHS Trust

BACKGROUND

- Depression is common in older adults and often under-recognised
- Hospitalisation is linked to functional, cognitive, and psychological decline
- despite medical improvement
- Virtual Wards provide hospital-level care at home, aiming to reduce these harms

METHODS

- Retrospective comparative audit (n = 100)
- 50 inpatients vs 50 Virtual Ward patients
- Inclusion: ≥70 years, ≥5 days care, comparable clinical conditions
- Exclusion: severe illness & incapacity.
- Tools: GDS-15 & Mood Thermometer

RESULTS

- Higher depressive responses in inpatients (47% vs 18%)
- Greater low mood in hospital group (38% vs 6%)
- Inpatients reported more hopelessness, low energy, and loss of interest
- Virtual Ward patients showed higher positive mood scores.

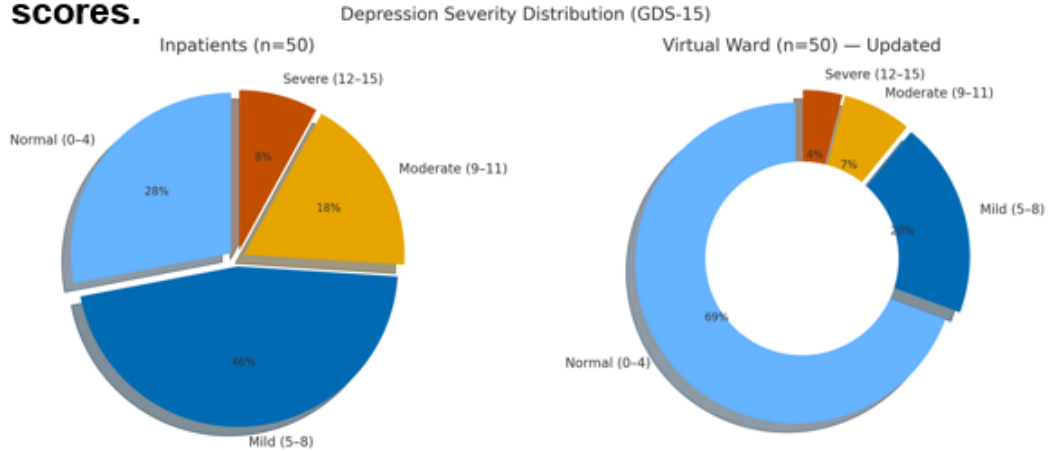


Figure 1: Comparison chart of depressive responses

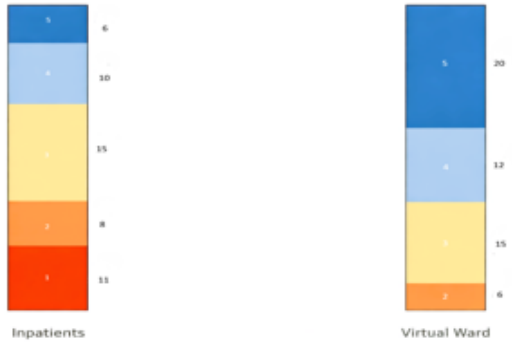


Figure 2: Mood Thermometer

CONCLUSION

- Hospital care is associated with more adverse psychological outcomes in older adults. Virtual Wards support improved mood and overall wellbeing
- Care environment plays a key role in patient outcomes and should guide future service design

RECOMMENDATIONS

- Integrate routine mental health screening for older adults
- Expand Virtual Ward pathways (frailty, heart failure & palliative care)
- Standardise early referral criteria across acute teams
- Provide patient education.

REFERENCES

NICE (Mental wellbeing in older people); NHS England Virtual Ward Programme; Sheikh JI & Yesavage JA, Geriatric Depression Scale; Cohen S et al., Perceived Stress Scale (PSS-10).

Features of Myocardial Morphological Changes in Patients With Heart Failure With Preserved Ejection Fraction After Undergoing Coronavirus Infection COVID-19

Better research and awareness of the link between the ACE2 protein, hypertension, and COVID-19 is needed and will be valuable for patients with both COVID-19 and Cardiovascular Diseases

Ashish Ranjan
Dr. Anastasia Starchenko

Department of Internal Medicine,
Orenburg State Medical University,
Orenburg, Russia

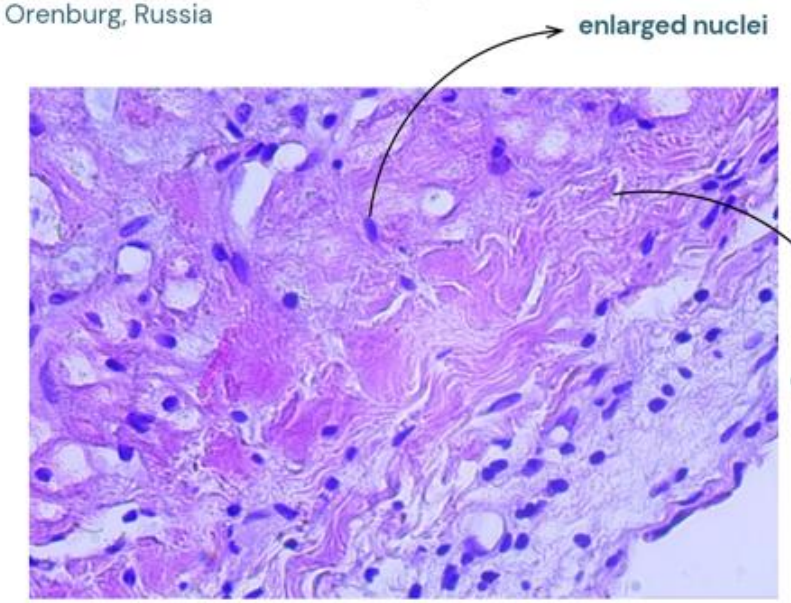
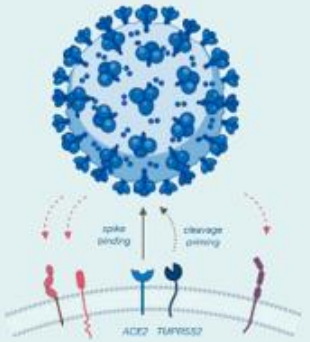


Figure 1 : A fragment of the myocardium of a man suffering from HFpEF after coronavirus infection

COVID-19 and ACE2

The SARS-CoV-2 virus uses ACE2 as its entry receptor to infect cardiac myocytes.

The virus uses it's spike proteins to attach to the receptor.



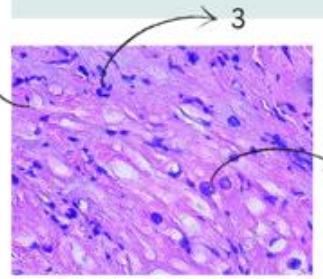
Effect of virus on the heart

The binding of SARS-CoV-2 to ACE2 can downregulate ACE2 expression and activity, disrupting the cardio-protective effects of ACE2 and potentially worsening heart damage.

The Study

The study included 49 women (W) (66.78±4.95 years), 52 men (M) (63.17±6.49 years) with HFpEF stages I-IIA, FC I-III.

At the stage of vena cava cannulation, RAA myocardial sampling was performed.



1 - hypertrophied nucleus
2 - perinuclear halo
3 - polypoid cardiomyocytes

According to light microscopy data, patients with novel coronavirus infection (NCI) were more likely to have polymorphism of cardiomyocyte nuclei (CMCs); bi-and multinucleated CMCs, capillary and venular plethora, perivascular and interstitial edema, foci of interstitial fibrosis, and myofibrillar fibrosis were more common.

Morphological Changes

In Women :

- Significant increase in the diameter of CMCs
- Increase in the area of CMC nuclei, cytoplasm, and their ratio
- Increase in the bulk density (BD) of stromal components
- Decrease in CMC bulk density

In Men :

- Decrease in Capillary bulk density
- Decrease in the trophic index
- Decrease in the radius of the lumen of arterioles
- Increase in the Kernohan Index

Conclusion

COVID-19 infection introduces significant changes in the structure of the myocardium in patients with HFpEF, characterized by a **decrease in adaptive remodelling processes**, regardless of gender.

However, **more pronounced morphological changes** associated with aggravation of trophic disorders occur **in the myocardium of women.**

Declaration: Appropriate permissions and written informed consent have been obtained from the patients for the use of the clinical data and histological images presented in this work. All data has been anonymized to protect patient confidentiality.

RCP MEDICINE CONFERENCE 2026

BEYOND THE CLASSIC TRIAD: REFRACTORY STATUS EPILEPTICUS AS AN ATYPICAL PRESENTATION OF WERNICKE-KORSAKOFF SYNDROME

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Worcestershire Acute NHS Trust NHS

1. CLINICAL CHALLENGE: THE ANCHOR BIAS

INITIAL PRESENTATION

67F, **Chronic Alcohol Use** (scotch whiskey)

Refractory Status Epilepticus (SE)

IV Benzodiazepines & Anticonvulsants

Postictal GCS 3/15, Febrile

ATYPICAL SEIZURES

Classic Triad (Confusion, Ataxia, Ophthalmoplegia) → **Refractory Seizures**

Uncommon primary WE symptom

Often mislabeled as simple Alcohol Withdrawal Seizure (AWS)

2. IMAGING & DIAGNOSTIC EVOLUTION

CONCEPTUAL MRI ANALYSIS

Conceptual iniisat

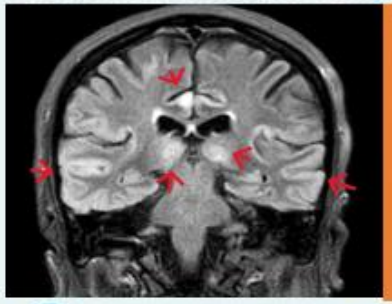
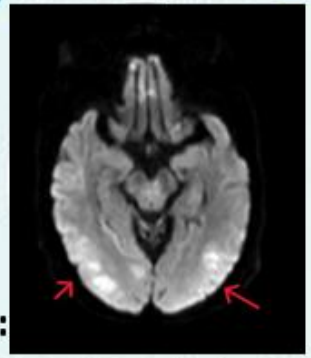


Fig 1: MRI FLAIR image showing hyperintense signal changes in bilateral thalami, and bilateral parietotemporal regions

A INITIAL Day 2 MRI → **B** TARGETED RADIOLOGICAL REVIEW

Fig 2:



A1: Bilateral Posterior Cortical Signals (Initially misread as postictal)

B1: Pathognomonic Mammillary Body Hyperintensity
B2: Left Cerebellum Signal Changes

Diagnostic Pathway

Initial thought: AWS → Non-specific Encephalopathy → Persistent Symptoms → MRI Re-review & Discovery

3. PROGNOSIS, DISCUSSION & FINAL TAKEAWAYS

CASE EVOLUTION

Focal seizures controlled with multidrug regimen

Significant long-term cognitive and behavioral impairment

Consistency with **ARBI** (Alcohol-Related Brain Injury) secondary to **Korsakoff Syndrome** (KS)

TAKEAWAY & CLINICAL PEARLS

1. Seizures can be a rare, dominant feature of **Wernicke's Encephalopathy**.
2. Initial MRI cortical signals can be **MISLEADING** as postictal.
3. **PROMPT TREATMENT** is vital. Delay leads to **IRREVERSIBLE** injury.
4. Maintain a low threshold for early, high-dose IV thiamine in chronic alcohol users.
5. Anchoring bias on AWS delays the correct diagnosis.

References
1. Eva, L., Brehar, F.-M., Florian, I.-A., et al. *J Clin Med*, 12(18), 6101.
2. Abu-Abaa M. Cureus 14(9): e28866.

We would like to thank the patient's husband for consenting to share the case.

When Shoulder Pain Was Not Orthopedic
A Diagnostic Dilemma of Transdiaphragmatic Hydatid Disease

Ayush Jha, MBBS; Saurav Shah, MBBS; Aaryashree Lamichhane, MBBS; Aaditya Bhardwaj, MBBS; Umanga Baral, MD

INTRODUCTION

- A serious public health issue, hydatid illness is still common in many underdeveloped nations.
- The most often impacted organs are the lungs (20–30%) and liver (70%), respectively.[1]
- Transdiaphragmatic extension of a hepatic hydatid cyst presenting with :-
  - Acute shoulder pain and cough
  - Non-orthopedic causes of shoulder pain in endemic regions.

DISCUSSION

- Echinococcus granulosus larvae are the cause of hydatid cyst disease.[2]
- Transdiaphragmatic spread can happen when the diaphragm is directly eroded or when the cyst bursts, causing thoracic involvement[3]
- May include chest pain, cough, dyspnea, and referred shoulder pain due to diaphragmatic irritation, as observed in the present case[4]

RECENT ADVANCES

- Minimally invasive surgical techniques: Transabdominal; Transdiaphragmatic; Laparoscopy
- Single stage management: Reduce morbidity, bilateral access via. Single incision

Written informed consent was obtained from the patient for publication of this poster and any images.

CASE PRESENTATION

We report a 48-year-old female presented with :-

Chief Complaints	Acute Onset of left shoulder pain Sharp movement aggravated, No Radiation Associated with dry cough and exertional dyspnea
Examination	Patient was conscious and well oriented Vitals were within normal limits Mild pallor was present Abdomen was non-tender: No signs of peritonitis
Investigation	Mild anemia [11.9 mg/dl]; Reference [12-15.5 mg/dl] Serology for Echinococcus IgG antibodies are positive

Figure 1: X-ray revealed well circumscribed rounded opacity in the left lower lung.

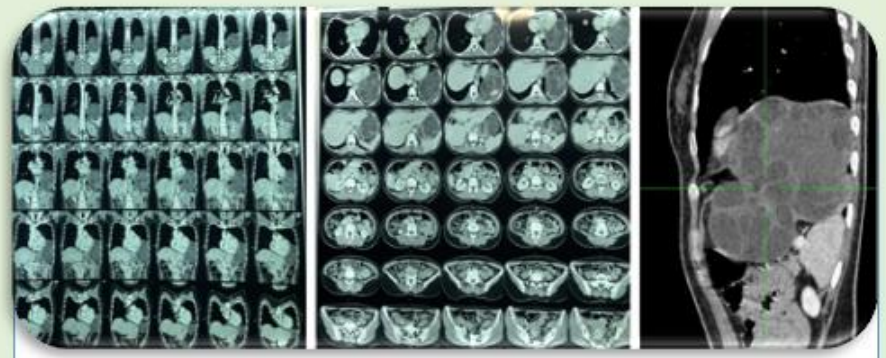


Figure 2: CECT revealed presence of 17X12.5X9.7 cm multiloculated, multiseptated, cystic lesions in the left upper abdomen with transdiaphragmatic extension to left lower lung.

Diagnosis	Transdiaphragmatic Hydatid Cyst(WHO-CE3B Transitional Stage) Involving left upper abdomen and left chest.
Management	Albendazole initiated 400 mg twice a day for 14 days Surgical intervention planned Close monitoring for rupture

CONCLUSION

- High suspicion in endemic region.
- Shoulder pain may be non-orthopedic leading to diagnostic confusion.
- Early radiological evaluation, with serology is the key to diagnosis
- Appropriate management to prevent serious complications.

TAKE HOME MESSAGE

Unexplained shoulder pain in endemic region may originate below the diaphragm- always consider hydatid disease.

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3. Msaad S, Yangui I, Ketata W, et al. [Hydatid cysts of the liver ruptured into the thorax (about five cases)]. *Rev Pneumol Clin*. 2015;71(5):255-263. doi:10.1016/j.pneumo.2015.03.002

4. Achref S. Disseminated Hydatidosis: A Case Report. *J Infect Dis Case Reports*. 2023;4(1):1-3. doi:10.47363/JIDSCR/2023(4)173

Sustainable Integration of Genetic Mutation Screening for Hemoglobinopathies under National Health Programs: Strengthening Health Services, Policy, and Workforce Capacity

Chandramouleeswari K[1], Meenakumari B[1], Sariga Dhanasekar[1]

1- Department of Pathology, Institute of Child health & hospital for Children, Madras Medical College

Introduction

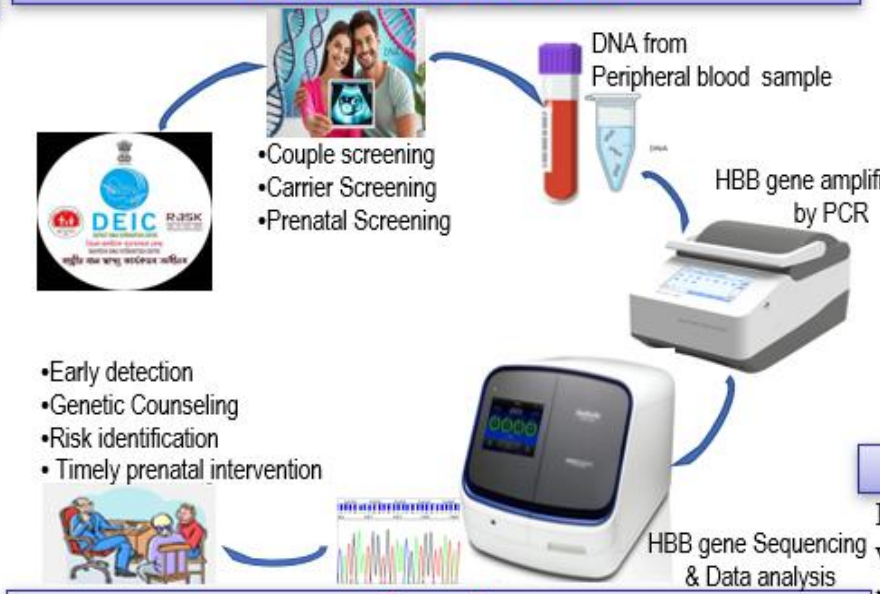
- **Thalassemia** is a monogenic, autosomal recessive hemoglobinopathy affecting individuals globally.
- India contributes **~25% of the global β-thalassemia burden**.
- High prevalence: **Punjab, Haryana, Delhi, Maharashtra, Gujarat**
- Lower prevalence: **Tamil Nadu, Karnataka**
- Patients require lifelong blood transfusions & chelation therapy
- Complications include Heart disease, Liver damage and Endocrine disorders
- **Challenges**:
  - High treatment cost (especially rural areas)
  - Healthcare system burden (urban + rural)
  - Emotional and Psychological burden on entire family
- **Opportunity**: Integration of **molecular diagnostics** into national programs (NHM)

Objective

To assess implementation of genetic mutation screening for hemoglobinopathies under NHM, focusing on:

- ✔ Sustainability
- ✔ Policy Alignment
- ✔ Workforce Capacity Development

Material & Methods



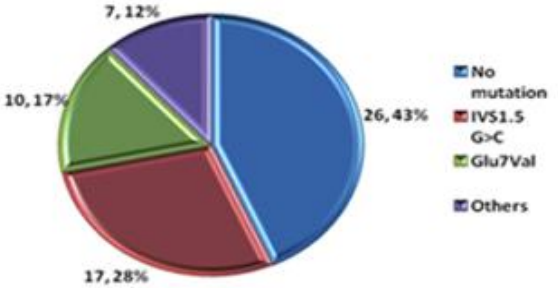


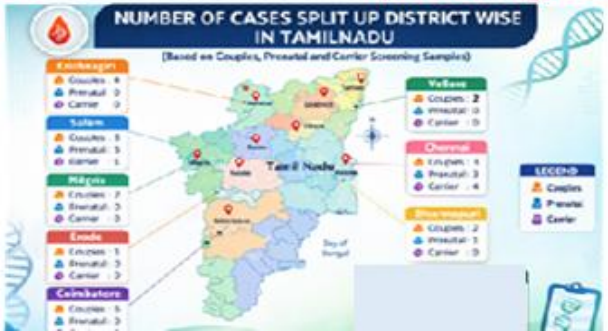
Fig 01: Prevalence of Mutation in percentage

Organized molecular diagnostic testing ensures diagnostic accuracy, and the reliable prevention of affected births as well as reduction of disease-related in public healthcare system

Result

No of Sample referred from DEIC centers: 60 referrals positive by HPLC for Beta Thalassemia/Sickle cell anemia

- 23 Couples (10 couples and 3 individuals had Heterozygous Mutation)
- 5 Suspected individual carriers (all 5 had heterozygous mutation)
- 9 Prenatal (Parent's with known heterozygous mutation) (7 had heterozygous mutation)



Conclusion

Integration of advanced molecular diagnostics with State-level projects:-

✓ Improves health service delivery in State-wide public sector institutes.

✓ Strengthens national health programs

✓ Sustained and reliable outcomes

✓Reduces burden of thalassemia & sickle cell anemia

References

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2. Radhakrishnan N, Bhalla S. Beta Thalassemia and Hemoglobinopathies in India: Understanding the Burden and Challenges. ECHO India.
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Bridging the Gap – Transition to Consultant

A Simulation-Enhanced Training Course for Senior Medical Resident Doctors

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[1]Barnet Hospital [2]Barnet/Royal Free NHS FT [3]Charing Cross [4]Royal London [5]St Georges [6]Royal Free [7]Health Education Yorkshire & Humber

Introduction

The transition from registrar to consultant is a complex professional shift. **Non-clinical responsibilities** - including job planning, financial management, legal frameworks, and leadership - are inconsistently addressed in postgraduate curricula.

Many trainees approach their CCT feeling underprepared for these key areas. *"**Bridging the Gap**" (BTG) was developed in 2023 to address this unmet need.*

Methods

Course Format

A free, two-day annual course at a London teaching hospital for senior trainees within 12–24 months of CCT. Attendance is capped to promote interaction.

Faculty

Made up of recently appointed consultants, senior clinical leaders, interview panel members, and senior registrars.

Day 1 Topics

Finances & pensions (CEAs, McCloud Judgement), job planning, complaints & legal frameworks, clinical leadership, wellbeing.

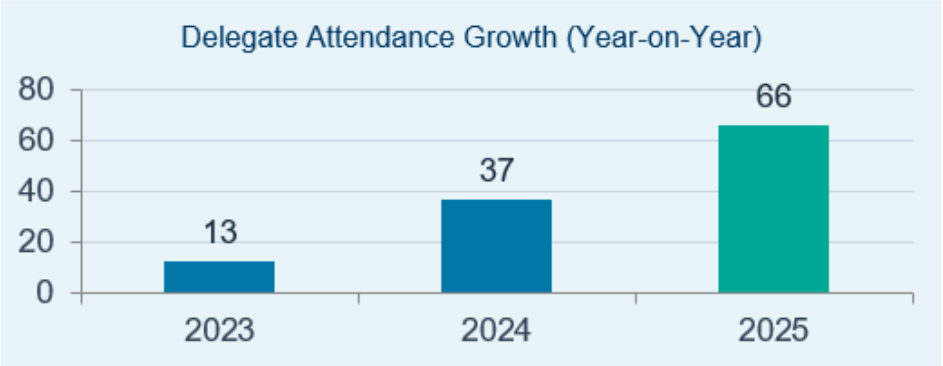
Day 2 Topics

Consultant applications, interview preparation, and a 90-minute consultant interview simulation (SIM) with structured debrief.

Evaluation

Pre- and post-course 5-point Likert questionnaire across key domains, plus qualitative free-text feedback.

Results & Discussion



Day 1 – Confidence Improvements

22% → 92%
Job Planning, Pensions & Financial Matters

28% → 85%
Complaints & Legal Processes

Day 2 – Interview Preparedness

18% → 86%
Interview Structure & Expectations

>90%
Rated Interview SIM as Highly Impactful

> *"Essential yet absent from existing training — every registrar needs this course before CCT."*
> — Delegate feedback, BTG 2025

Qualitative Feedback Themes

Delegates frequently described Day 1 topics as ***"essential yet absent"*** from existing training.

Key feedback themes:

- Appreciated candid narratives from new consultants
- Practical insights into coronial and legal processes
- Understanding of interview panel priorities and scoring frameworks
- Strategic answer structuring for interviews
- Requests for more SIM time & smaller breakout groups

Conclusion

BTG demonstrates that a targeted, simulation-enhanced intervention can **meaningfully improve senior trainees' confidence** in both clinical and non-clinical aspects of consultancy.

Programme strengths:

- Blended didactic, storytelling & immersive SIM
- Iterative, QI-based curriculum refinement
- Peer-led, free
- Sustainable year on year

Wider implementation within deanery or national training pathways may improve preparedness and early consultant

Strong support for regional & national adoption

References

1. Ogrinc G et al. SQUIRE 2.0. BMJ Qual Saf. 2016;25(12):986–992
2. Sultan N et al. Leadership development in postgraduate medical

Real world experience with Nintedanib in patients with PF-ILD

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Portsmouth Hospitals University NHS Trust

Introduction

Progressing fibrosing ILD (PF-ILD) is a clinical phenotype characterised by progressive decline in lung function despite standard therapy. **Nintedanib**, an antifibrotic agent, has shown efficacy in slowing FVC decline (as per **INBUILD trial**[1]).

This audit reviews **real-world outcomes** in patients treated with Nintedanib for PF-ILD at a UK ILD centre.

Primary outcome: Change in FVC and DLCO pre- and post-Nintedanib.

Subgroup focus: Connective tissue disease-related ILD (CTD-ILD), chronic hypersensitivity pneumonitis (CHP), fibrotic non-specific interstitial pneumonitis (NSIP), unclassified, and 'other' (incorporating sarcoidosis, asbestosis and exposure-related ILDs).

Methods

Design: Retrospective audit (June 2022–June 2024)

Analysis:

Microsoft Excel and online statistics calculator

Wilcoxon signed-rank test for paired comparison

Subgroup analysis according to figure 1.

Results

Population: 37 patients (21 female)

Mean age: 71.5 years

Monitoring bloods: complied in 30, missing in 3 patients

Tolerance: Good overall; 21 experienced side effects, most commonly diarrhoea (18), other adverse effects: hypertension (2), anaphylaxis (1)

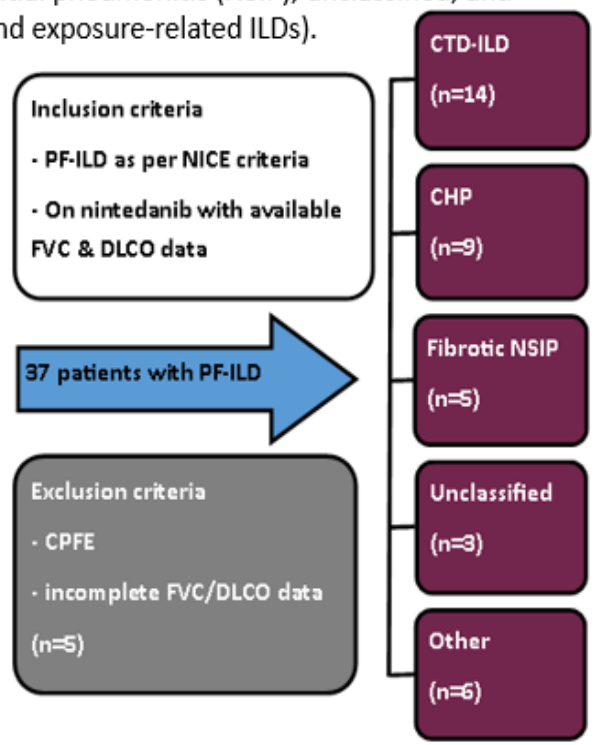

Figure 1 – schematic illustrating inclusion and exclusion criteria and subsequent patient groupings for analysis

Conclusion

Overall, Nintedanib stabilised lung function in PF-ILD.

CTD-ILD subgroup showed a **significant FVC improvement**, suggesting particular benefit.

Real-world findings align with **INBUILD trial** results.

Well-tolerated with manageable side effects.

Limitations: Single-centre, retrospective design, small sample size.

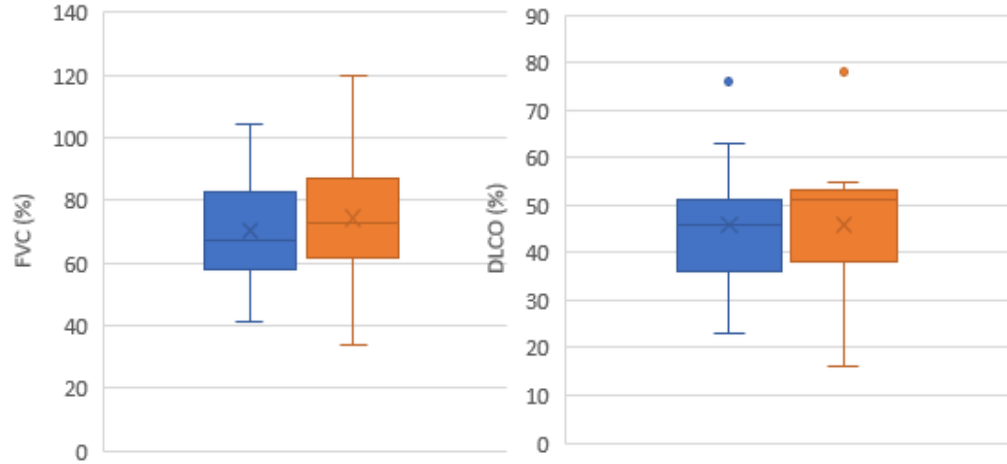

Figure 2 – FVC (%)* and DLCO (%) in CTD-ILD subgroup both before Nintedanib treatment (blue) and after (orange). *Please note that FVC change is statistically significant ($p<0.05$)

Discussion

Nintedanib appears to slow or prevent lung function decline in PF-ILD
CTD-ILD patients may derive the most measurable benefit

Larger, multi-centre collaboration is needed to validate findings and refine subgroup-specific management.

REFERENCES

1.Wells AU, Flaherty KR, Brown KK, et al. Nintedanib in patients with progressive fibrosing interstitial lung diseases-subgroup analyses by interstitial lung disease diagnosis in the INBUILD trial: a randomised, double-blind, placebo-controlled, parallel-group trial. Lancet Respir Med 2020; 8(5): 453–460.

UNEXPECTED CULPRIT : GALLSTONE ILEUS IN ELDERLY DIABETIC WOMEN

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ABSTRACT

Gallstone ileus is a rare cause of small bowel obstruction in elderly patients; a 72-year-old diabetic woman presented with 5 days of obstructive symptoms, CT confirmed a terminal ileal gallstone, and emergency laparotomy with ileal resection removed two impacted stones, emphasizing early diagnosis and prompt surgery.

INTRODUCTION

Gallstone ileus occurs when a gallstone migrates through a biliary-enteric fistula and causes small bowel obstruction, typically in elderly patients with nonspecific symptoms, where early suspicion—especially in those with comorbidities like diabetes—is essential to reduce morbidity.

METHOD

A 72-year-old woman with type 2 diabetes and known gallstones presented with 5 days of abdominal pain, distension, nausea, vomiting, and constipation; abdominal X-ray (figure 1) showed a large radiopaque stone with air–fluid levels suggestive of obstruction, and CT (figure 2) confirmed a calcified gallstone in the mid-terminal ileum.

RESULTS

Due to loop obstruction, the patient underwent surgery with segmental ileal resection removing 2 calcified gallstones 40–45 cm proximal to the ileocecal junction(figure 3), followed by an uneventful recovery.

DISCUSSION

Gallstone ileus is difficult to diagnose due to nonspecific symptoms in elderly patients; CT is the gold standard showing pneumobilia, ectopic stone, and obstruction), and management is surgical with enterolithotomy or bowel resection based on severity and bowel viability.

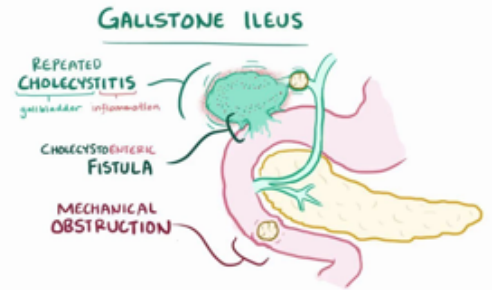
CONCLUSION

This case emphasizes considering gallstone ileus in elderly patients with bowel obstruction and prior gallstone disease; early suspicion, timely imaging, and prompt surgery improve outcomes.

Figure1: Standing Abdominal X-ray

Figure 2: Coronal CT Abdomen

Figure 3: Resected ileal segment



PARAMETER	RESULTS
WBC	Elevated
HAEMOGLOBIN	10 g/dl
SUGAR	WELL CONTROLLED
CRP	ELEVATED

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More than OPAT:

Developing an Infection Virtual Ward

Ed Moran[1], Shuchita Soni[1], Megan Jenkins[1], Morgan Rayner-Philipson[2], Lucinda Saunders[3]
Jennifer Pollock[4], Lisa Prestidge[5]
For the Bristol Infection Virtual Ward Team

1 – Consultant in infectious diseases
2 – Split in infectious diseases and medical microbiology
3 – NBT clinical operational lead for BNSSG NHS@Home
4 – UHBW clinical operational lead for BNSSG NHS@Home
5 – NHS@Home service administrator

BACKGROUND

The Infection Virtual Ward service transforms the traditional infection management pathway by enabling consultant-led care for complex infections at home rather than in hospital.

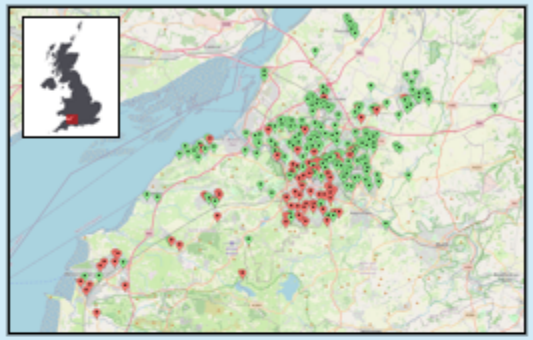


Figure 1: Rough locations of the 303 patients.

Green: North Bristol NHS Trust referral, Red: University Hospitals Bristol and Weston NHS Foundation Trust referral

A collaboration between the Bristol, North Somerset, South Gloucestershire (BNSSG) NHS@Home service, the regional infection department and two acute trusts, the pathway integrates daily virtual consultant review, community nursing, remote monitoring, and rapid access to diagnostics. In its first 12 months, it managed 335 patient episodes, with high levels of patient satisfaction and significant potential cost saving compared to inpatient admission.

Source of referrals

Referrals are received from 2 acute trusts. The most frequent referrals were from the ID ward at NBT (41%).

Figure 2 (right): Sources of referrals for the 335 admissions to the ID virtual ward.

UHBW = University Hospitals Bristol and Weston NHS Foundation Trust; NBT = North Bristol NHS Trust

CONDITIONS MANAGED ON THE VIRTUAL WARD

- Total "bed days" were 4595 with a mean length of stay (LOS) of 13.7 days (median 8 days).
- The biggest contributors were BSIs, SSTIs, UTIs, spinal and MSK infections.

Figure 3 (right): Patient cohorts managed on the virtual ward, showing length of stay and re-attendance rates with various infections.

SSTI = Skin and soft tissue infection; BSI = Bloodstream infection; MSSA = Methicillin-sensitive Staph aureus; FUO = Fever of unknown origin; MSK = Musculoskeletal; GI = Gastrointestinal; OM = osteomyelitis.

	Number of patients	Mean length of stay	Total days on VW	Rate of re-admission
SSTI	71	8.3	590	7%
Urinary	60	9.8	586	13%
BSI (non-MSSA)	27	15.7	423	7%
BSI (MSSA)	12	17.8	214	25%
Spinal infection	26	19.5	508	31%
FUO	20	13.8	275	0%
Respiratory	20	12.1	241	0%
Cardiovascular	17	23.6	401	24%
MSK	15	31.7	475	20%
Fever in returning traveller	14	7.6	107	29%
Viral	12	13.7	164	0%
GI infection	11	7.6	84	18%
Collection (non-brain)	10	18.8	188	20%
Neurological	7	16.1	113	0%
Other	13	17.4	226	31%

- The overall rate of return to hospital, whether for planned tests, e.g. biopsy, or unplanned review or re-admission was 13.4%. Conditions associated with this were spinal infection (8 of 26, 31%), pelvic OM (3 of 3, 100%), and HLH (3 of 3, 100%).

Figure 4 (left): Distribution of lengths of stay for the 335 admissions.

THE VIRTUAL WARD IN 2025

- 303 individual patients were recruited to the virtual ward in this 12-month period, with 335 episodes of care.
- 26 patients (8.6%) had more than one admission.

Demographics

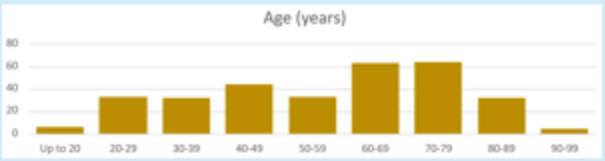
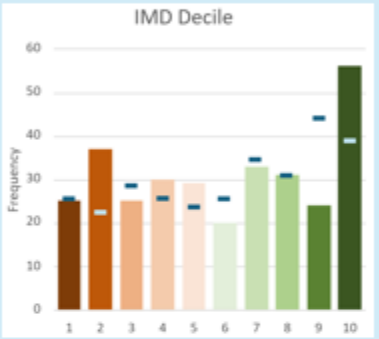


Figure 5: Distribution of ages for all 303 individual patients admitted to the ID virtual ward.

Figure 6: Postcode data mapped to official measures of relative deprivation and health for small areas in England, compared to deciles for the entire BNSSG population (blue markers). Sources: Ministry of Housing, Communities & Local Government 2025; BNSSG "healthier together" 2015.



IMD = weighted total of: • Income Deprivation (22.5%) • Employment Deprivation (22.5%) • Education, Skills and Training Deprivation (13.5%) • Health Deprivation and Disability (13.5%) • Crime (9.3%) • Barriers to Housing and Services (9.3%) • Living Environment Deprivation (9.3%).

1 = Most deprived
10 = Least deprived

- The distribution of patients across IMD deciles broadly mirrors the local population profile, indicating that recruitment to the infection VW is generally representative.

CONCLUSIONS

- The infection virtual ward safely managed a broad range of infections with an overall re-admission rate of 13.4%, supporting its role as an effective alternative to inpatient care.
- Certain infections were associated with longer LOS and higher re-admission rates.

Next steps

- Establish factors associated with unplanned readmission and identify ways to reduce or convert to planned day attendances.
- It was noted that patients stay on the service longer than strictly necessary for follow up. Recording a stricter "clinical length of stay" will allow accurate calculation of inpatient bed day savings.
- Improve referrals from sites which are currently low VW users, including building confidence in the safety of the service.

CASE STUDY 1 – DISCITIS

30F with discitis diagnosed by her GP with MRI following 6 weeks of back pain. Admitted to AMU on **Friday night.** Seen by infection VW physician on **Saturday morning** and discharged home.

Discussed with interventional radiology on **Monday**, biopsy arranged for **Thursday**, following which empirical antibiotics were prescribed.

Treatment adjusted when culture result known and moved to standard OP pathway for follow up.

CASE STUDY 2 – PYELONEPHRITIS AND BACTERAEMIA

50F with CKD4 and acute loin pain, but no fevers. Infection VW physician took blood and urine cultures and started oral antibiotics. She was discharged home with a Bluetooth observation kit.

On **day 1** after discharge, blood cultures became positive. Patient attended SDEC for a single dose of IV antibiotic and returned home.

On **day 2** the organism was identified and antibiotic sensitivity confirmed. Following 3 days of improvement she was discharged.

Clinical Audit: Efficiency and Safety of Teledermatology in Primary Care Skin Lesion Pathway.

Chia E[1], Mustafa A[2]
[1] Mid Yorkshire Teaching Hospital NHS Trust, [2]Trinity Medical Centre Wakefield

INTRODUCTION

The National Health Service (NHS) 10-year health plan prioritises:

- Shifting care from hospitals to community settings
- Expanding digital healthcare solutions
- Emphasising prevention over treatment

Dermatology is a high-demand specialty with long waiting times, making it well suited to digital triage systems such as eConsult and teledermatology[1].
eConsult enables primary care clinicians to access specialist advice and triage patients efficiently. However, real-world data on patient safety and system efficiency in UK primary care dermatology pathways remain limited[2].

AIM

To evaluate the **efficiency** and **safety** of an eConsult-based skin lesion referral pathway in a UK primary care provider.

MATERIALS AND METHODS

Design: Retrospective audit
Setting: UK primary care practice, West Yorkshire
Period: June 2024 to June 2025
Data source: SystmOne electronic health record
Inclusion criteria: Skin lesion referrals submitted via eConsult
Outcomes assessed:
Efficiency:

- Wait time from patient request to skin clinic appointment
- Wait time from eConsult referral to secondary care dermatology triage
- Proportion managed in primary care
- Estimated cost savings for 5-minute appointments

Patient safety:

- Missed malignancies
- Delays in dermatology triage

RESULTS

Total cases analysed: 621
Cases managed in primary care: 93%
Estimated cost saving for 5-minute skin lesion appointments: £11,488.50 (based on calculations from a study in 2023/24, the average 10-minute face-to-face GP consultation costs the NHS £37 [3].

Mean wait time to skin clinic review: 28 days
Median wait time to dermatology triage: 3 days
Safety outcomes:

- No missed malignancies
- No clinically significant delays in triage

*The authors declare that they have obtained the appropriate permissions for collecting and sharing any patient data as a part of the competition.

This pathway demonstrates:

1. Improved efficiency

- Rapid specialist triage (median 3 days)
- Reduced burden on secondary care (93% managed in primary care)

2. Cost-effectiveness

- Significant savings through avoidance of secondary care appointments

3. Strong safety profile

- No adverse oncological outcomes identified
- Supports reliability of digital triage with appropriate safeguards

CONCLUSION

eConsult-based dermatology pathways in primary care are:

- **Efficient:** enabling rapid triage and reducing unnecessary referrals
- **Safe:** with no missed malignancies or delays identified
- **Cost-effective:** generating meaningful healthcare savings

These findings support wider adoption of digital triage systems in line with NHS strategic priorities to:

- Deliver care closer to home
- Improve access to specialist input
- Enhance system sustainability

Digital-first dermatology pathways using eConsult can safely **shift care into the community while maintaining quality and reducing cost**.

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A Resident-Doctor–Led Cardiovascular Teaching Programme Improves Medical Student Knowledge and Confidence: A Quality Improvement Project

Felicia Chiu[1]
[1]*Frimley Health NHS Trust*

Aim: To improve undergraduate medical students' knowledge and confidence of core cardiovascular topics through a structured resident doctor led online teaching series

Background

Chest pain and related cardiac presentations account for 6% of adult emergency attendances (1) and accounts for a quarter of all deaths in the UK (2), making competence in cardiovascular clinical skills critical for graduating doctors. However, national surveys report variability in cardiovascular teaching, low learner confidence in ECG interpretation, clinical examination, and acute presentations (3).

Results

Total responses: 43 students across 7 sessions (7 UK medical schools)

Key outcomes:

- 93% of students reported improved confidence in clinical application and exam/OSCE preparedness
- Confidence scores increased from a mean of 3.1/5 prior to teaching to 4.5/5 post-teaching
- Mean rating of adequacy of existing undergraduate cardiology teaching was 3.1/5 and mean perceived value added of teaching programme was 4.8/5

Conclusion

This Quality Improvement project successfully addressed identifiable gaps in undergraduate cardiovascular education. Students reported enhanced understanding, improved confidence, and increased preparedness for both examinations and clinical placements.

The programme highlights the effectiveness of structured resident-doctor-led teaching and serves as a scalable model for medical schools and NHS trusts seeking to strengthen specialty-specific undergraduate education.

Methods

A 7-session online teaching programme was designed and delivered by FY1 and FY2 doctors using a standardised, exam and clinical practice focused format. Participation was open nationally, with students attending from multiple UK medical schools.

Quantitative measurement: A pre/post questionnaire was distributed for each session. Responses used 5-point Likert scales. Data were analysed descriptively, comparing mean pre- and post-session scores across domains.

Qualitative measurement: Free-text responses were analysed to identify strengths, areas for refinement, and address learning needs.

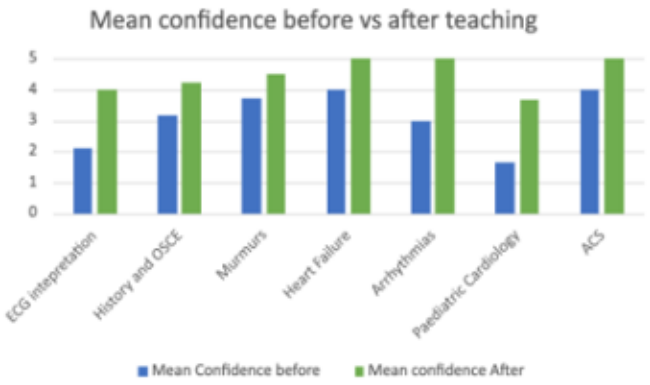

Figure 1. Mean self-reported confidence scores (Likert scale 1–5) before and after each teaching session

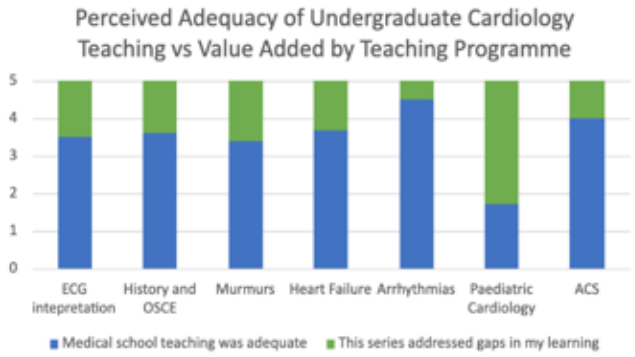

Figure 3. Comparison of perceived adequacy of undergraduate cardiology teaching with perceived value added by the teaching series

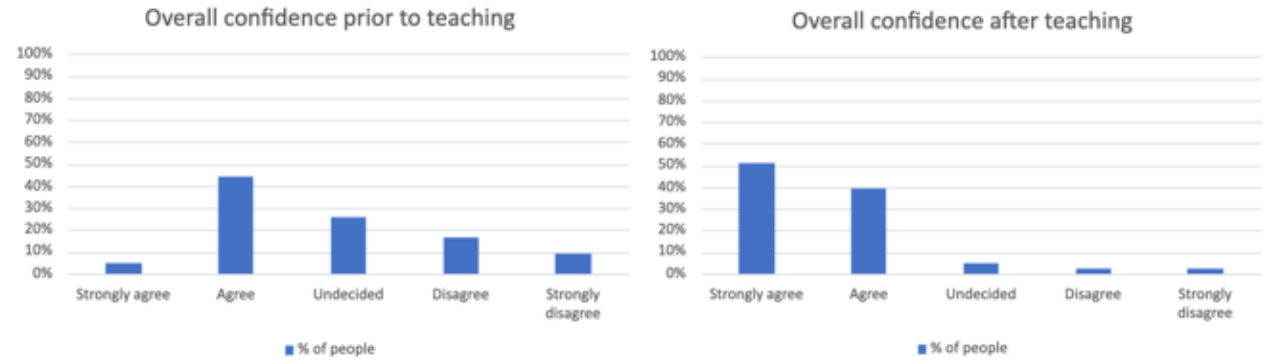

Figure 2. Student response to "I have a basic understanding of cardiovascular pathology" was collected pre-session (Left) & post session (Right). Average responses over 7 sessions were calculated and expressed as a percentage

Discussion

Substantial improvements were made in both knowledge and confidence among undergraduate medical students across multiple domains.

This project demonstrates that:

- FY1/FY2 doctors are well placed to deliver targeted, accessible teaching aligned with student needs
- Standardised session design promotes consistency and high educational value
- Online delivery enables broad reach across institutions, improving equity of access to high-quality teaching

The strong positive response suggests an unmet demand for focused cardiovascular education and supports the integration of similar programmes within medical education frameworks.

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Occam's razor in practice: diagnosing VEXAS syndrome in multisystem steroid-dependent inflammation

Dr. Francesca Holden, Dr. Jyoti Bakshi, Rheumatology Department, Ashford and St. Peter's Hospitals NHS Foundation Trust

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Introduction:

VEXAS syndrome is a late onset autoinflammatory disorder caused by acquired somatic mutations in the UBA1 gene. First described in 2020, it is characterised by refractory systemic inflammation, cytopenia, chondritis and diverse dermatological manifestations, predominantly affecting older men. Early features are often non-specific and include persistently raised inflammatory markers, frequently resulting in diagnostic delay and prolonged exposure to ineffective immunosuppression or repeated courses of antibiotics.

We present the case of a 77-year-old man initially referred to Rheumatology with intermittent foot pain on a background of gout. He was initially treated as gout due to raised urate levels. Figure 1 shows his journey to diagnosis.

Figure 2: demonstrates the patient's rash, consistent with Neutrophilic Dermatosis

Worsening polyarthralgia and a persistent rash. Inflammatory markers markedly elevated (CRP 131 mg/ L and ESR 106 mm/ hour). A provisional diagnosis of seronegative inflammatory arthritis was made. Received methotrexate, leflunomide and adalimumab but with limited benefit and became steroid dependent.

↓

Inflammatory markers remained persistently raised.

Developed new macrocytic anaemia (haemoglobin 80 g/L, MCV 112 fL) with normal B12 and folate, alongside a raised kappa to lambda ratio.

↓

Reviewed in the Rheumatology hot clinic with malaise, weight loss, night sweats, polyarthritis, nasal pain and auricular chondritis.

Examination demonstrated widespread neutrophilic dermatoses (figure 2), a purpuric vasculitic rash over the lower limbs and polychondritis.

↓

Collation of records from multiple trusts revealed additional diagnoses of relapsing remitting polychondritis and bilateral chronic uveitis.

The constellation of steroid dependent systemic inflammation, chondritis, dermatological involvement and macrocytic anaemia prompted suspicion for VEXAS syndrome. Table 1 shows confirmation of the diagnosis.

↓

Referred to a multidisciplinary service involving Rheumatology, Dermatology and Haematology. Planned to commence azacitidine.

Figure 1: Patient's journey to the diagnosis of VEXAS Syndrome

Table 1: Diagnostic work-up

Modality	Finding	Contribution to Diagnosis
Genetic testing	**Pathogenic *UBA1* variant**	**Confirmed VEXAS syndrome**
Bone marrow trephine	Hypercellular marrow with trilineage haematopoiesis, myeloid hyperplasia, no blasts	Supported clonal haematological disorder
Bone marrow aspirate	Dysplastic erythroid/myeloid features, no excess blasts	Helped assess for associated myelodysplastic change

Discussion & Conclusion:

This case highlights the diagnostic complexity of multisystem inflammatory disease in older adults, particularly when presentations mimic more common conditions. Fragmented care across multiple institutions contributed to delayed recognition of a unifying diagnosis. Application of Occam's razor, seeking a single explanation for diverse inflammatory manifestations, proved pivotal.

In older men with persistent inflammation, steroid dependence, and unexplained macrocytic anaemia, VEXAS syndrome should be considered, particularly with coexisting chondritis, uveitis, and neutrophilic dermatoses. As an increasingly recognised cause of late-onset, treatment-refractory inflammation, earlier identification of VEXAS may reduce unnecessary corticosteroid exposure and enable timely multidisciplinary care.

Written informed consent was obtained from the patient for presentation of this case report at a conference poster presentation and for the use of any accompanying images

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Simulation based Point-of-care ultrasound (PoCUS) education: a scoping review

Francie Kaushal

INTRODUCTION

- PoCUS is a widely used bedside diagnostic tool across trauma, cardiac imaging, and vascular access.
- It enables rapid diagnosis, reduces costs, and supports real-time clinical decision-making (Arnold et al., 2020).
- Its hands-on nature makes it well suited to simulation-based education, allowing safe practice of image acquisition, interpretation, and clinical integration (Shin et al., 2020).
- Understanding current simulation practices can support the development of effective, learner-centred PoCUS training.

RESEARCH QUESTION

How are simulation modalities used in point-of-care ultrasound (PoCUS) education, and what is their impact on skill acquisition and retention?

METHODOLOGY

Search strategy
- Databases: PubMed, Scopus, CINAHL
- Search terms: "point-of-care ultrasound", "simulation", "training", "skill acquisition", "skill retention"

Screening & Selection
- Screening via Rayyan
- Two-stage: title/abstract → full-text
- Duplicates removed →Predefined inclusion/exclusion criteria

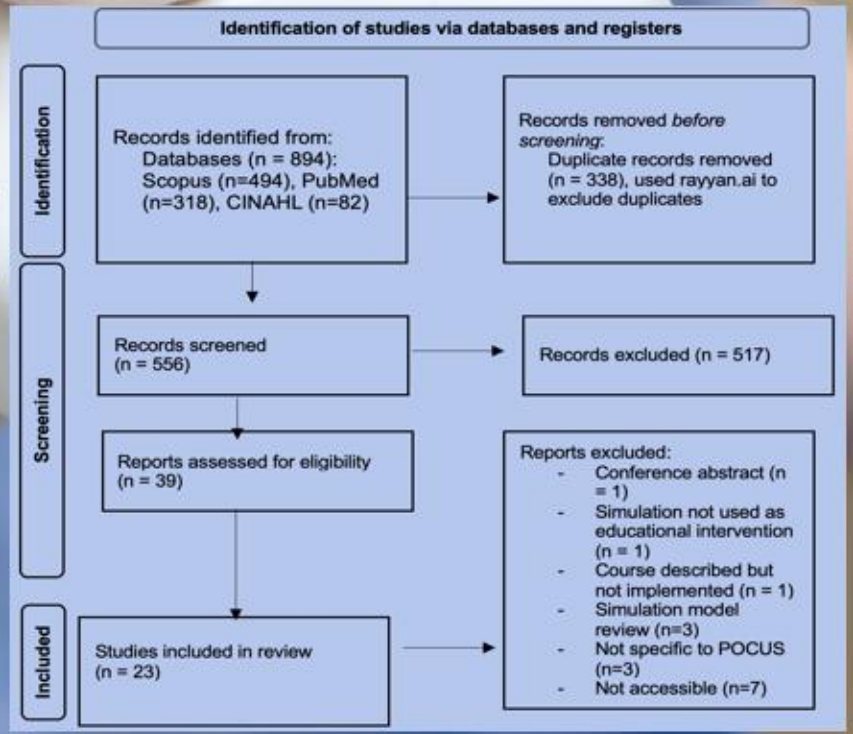
Data Extraction
- Data extracted in Excel, covering: Study details, population, simulation type, outcomes, Skill focus, theory used

Data analysis
- Descriptive analysis
- Grouped by simulation type, learner level, outcome
- Narrative synthesis with tables

OBJECTIVES

- To map simulation modalities used in PoCUS training and their reported outcomes
- To evaluate the impact of simulation on skill acquisition and retention
- To identify gaps in the literature, including links to educational theory

RESULTS



Simulation Modalities

- Hands-on scanning (live models)
- High-fidelity simulators (pathology + feedback)
- VR/AR platforms (self-directed, immersive)
- Low-fidelity simulators

Outcomes: Skill Acquisition & Skill retention

- ↑ **Immediate improvement** in image acquisition and interpretation
- ↔ **No significant difference** in some comparisons (e.g. VR vs instructor-led)
- Long-term retention assessed in only **6** studies
- **Mixed retention outcomes:** sustained skills vs decay (1–12 months follow-up)

Educational Theory Use

Only 7 studies referenced the following theories: Kirkpatrick's model, Miller's pyramid, Cognitive load theory, Mastery learning

CONCLUSION

- Simulation improves immediate PoCUS skill acquisition; long-term retention remains unclear
- No single approach fits all — training should match learner level, skill type, and clinical context
- Simpler modalities suit beginners; advanced learners benefit from higher-fidelity training (Lapierre et al., 2022)
- Educational theory is underused but could strengthen training design
- Spaced repetition and feedback may improve retention (Jape et al., 2022)
- Future research should focus on what works, for whom, and in which contexts

Refereneces: Arnold, M.J., Jonas, C.E. and Carter, R.E. (2020). Point-of-Care Ultrasonography. *American Family Physician*, [online] 101(5), pp.275–285.
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Centralisation of Acute Medicine services within a multi-site NHS trust reduces patient mortality. A prospective study.

Dept Acute Medicine, Gloucestershire Hospitals NHS Foundation Trust

Dr Frederick Henshaw *Chief Registrar*, **Dr Andiran Anduvan** *Acute Med Consultant*, **Dr Christopher Custard** *Acute Med Consultant*, **Dr Emma Wylie** *Chief of Service Medicine*.

Introduction

The new NHS 10-year plan (1) prioritised delivering care 'as locally as it can'. Localised care is popular with patients, but the effect on safety outcomes is unclear. Studies suggest centralisation of unscheduled care services may benefit patient mortality for specific conditions but not undifferentiated patients (2-5). This study followed the centralisation of an undifferentiated medical take. It was hypothesised that this would enable flexible medical staffing, better access to senior decision makers, create critical adjacency between services leading to improved patient outcomes.

Setting

The trust comprises two district general hospitals with a combined 856 beds, situated 8 miles apart. They serve a population of 660,000 people with a combined 63,000 ED & SDEC attendances each year. Reorganisation resulted in a total of 40 acute medical beds, 25 fewer than before. SDEC services were unchanged across both sites.

Methods

Acute inpatient services were centralised to a single site in August 2024. Mortality data was collected from August 2023-June 2025 for all emergency admissions to the medical division in the form of the 12-month rolling standardised hospital mortality index (SHMI). SHMI predicts expected mortality and is adjusted for age, gender, admission route, diagnosis and co-morbidities. Expected deaths are then compared to observed deaths. SHMI is benchmarked against other providers in England.

Results

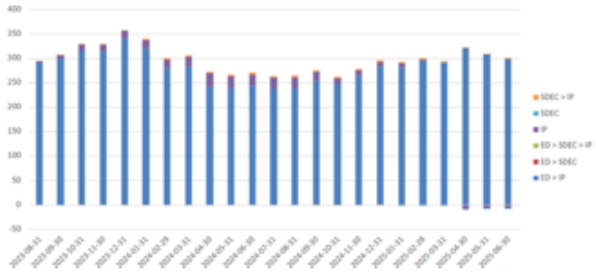
Figure 1.SHMI 2023-2025

Monthly SHMI data for the trust shows continued improvement since centralisation. The trust went from being a national outlier for higher-than-expected mortality to being as expected. Special cause improvement suggests this was not due to chance.

Figure 2. Excess deaths by admission route

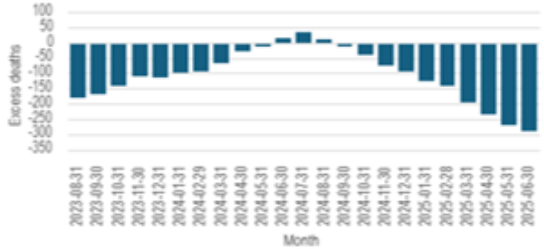
Subgroup analysis of acute medicine deaths via admission route shows excess deaths were exclusively seen amongst patients admitted to AMU from the ED. The 5 other admission routes showed lower than expected deaths, particularly in patients attending via direct admit SDEC pathways. ED patients triaged directly to SDEC also had better than expected mortality. Excess mortality associated with admission via ED reduced from centralisation. This suggests a positive impact of acute medicine changes on the ED despite a reduction in the total number of acute medicine beds.

Figure 3. Excess deaths outside of acute medicine



Excess mortality amongst medical patients who were admitted direct to wards and bypassed acute medical services was unaffected by the changes.

Figure 4. Excess deaths Acute Medicine



At the point of re-organisation, the trend for excess deaths within acute medical patients had been rising. Following centralisation this immediately reversed and showed sustained improvement. This was not replicated in other areas of the medical division that were unaffected by the re-organisation.

Conclusion

Our results show that centralisation of acute medical services resulted in a sustained reduction in mortality. This occurred despite a reduction in the number of beds and without additional financial or staffing resources.

Direct acute medicine pathways which already showed positive mortality benefits improved further following the centralisation of services. This is despite some patients having to travel further to access them.

Limitations

SHMI does not directly account for frailty which is a significant limitation to the national data and this study.

There were other trust wide initiatives during the study period which may have impacted on our results. However, if the impact had been large, we would have expected to see changes in the SHMI data across the medical division.

We did not investigate the impact of centralisation on the wider healthcare system including primary care and the ambulance service

We have very limited data on the impact on patient experience. Public consultation revealed opposition to centralisation, especially near the hospital where acute beds were removed.

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From Datix to Difference: Improving Perioperative Blood Glucose Management with an Interactive Educational Survey and Case-Based Learning Package

Dr Gareth Burton [A], Dr Delma D'Cunha [B], Dr Elaine Hui [C] and Dr Vazira Moosajee [C]

A –Charing Cross Hospital; *B* –Hillingdon Hospital; *C* –London North West University Healthcare Trust.

Introduction & Aims:

- Sensible perioperative glucose management strategies reduce complications in patients with diabetes undergoing surgery[1].
- Across a large multi-site NHS trust, **Datix-reported incidents over a 2-year period** showed **recurrent issues with perioperative diabetes management**, with inconsistent practice and divergence from clinical guidelines.
- Staff across medicine, surgery and anaesthetics reported uncertainty about perioperative diabetes care, highlighting an educational gap.
- **Using QI methodology, we aimed to improve clinician confidence** through design and use of a bespoke, interactive perioperative diabetes education package.

Methods:

An **online education resource** was created using the Trust perioperative diabetes guidance. It was distributed electronically via Whatsapp groups and mailing lists.

It comprised:

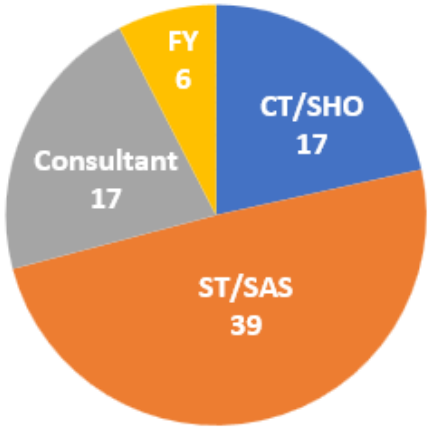
1. A **pre-intervention confidence self-assessment survey** (via Mentimeter.com)
2. **Interactive case-based MCQs** covering perioperative scenarios, exploring participant knowledge and delivering teaching.
3. A **post-intervention repeat confidence survey**

Knowledge tested:

- How to prescribe/troubleshoot insulin infusions (e.g. VRII)
- When/how to restart diabetic medications, including insulin and oral diabetic agents
- Knowledge of the method of action of various diabetic agents
- Recognition & management of possible complications, such as Euglycaemic DKA

Results:

79 doctors across the perioperative pathway participated:



Feedback:

- Interactive cases were described as **more engaging and memorable than written guidance**
- 78% preferred this format from a governance-learning perspective.
- Criticism included that the activity took **longer than a standard questionnaire.**

Further work:

Improving navigation, highlighting key learning points, and incorporating updated guidance. Future PDSA cycles will include objective pre-/post-knowledge testing.

Conclusions:

An **interactive case-based educational package improved clinician confidence** and was well received across specialties. This approach offers a practical method for embedding consistent perioperative diabetes practice and has potential to enhance patient safety with further rollout and refinement.

[1] – Perioperative Care of People with Diabetes Undergoing Surgery https://cpoc.org.uk/guidelines-and-resources/guidelines/ . [Accessed 1.3.2026]

EMERGENCY MEDICINE IN LOW-RESOURCE SETTINGS: INNOVATIONS IN TRAUMA CARE

Glory Kinsiedi-Matonga, University of Nottingham

introduction

Trauma (e.g. road accidents, falls and violence) is one of the biggest causes of death and disability around the world. The problem is worst in lower-income countries, where hospitals and emergency services often lack staff, equipment and funding.

Despite these challenges, healthcare workers in these settings have found clever, practical ways to save lives. From training community volunteers to using affordable technology, these solutions have made a real difference.
Importantly, the rest of the world can learn from them too. Many of these ideas are now shaping how emergency care is delivered in wealthier countries as well.

Challenges

- **Limited funding :** basic supplies frequently run out, making consistent care difficult
- **Staff shortages :** healthcare workers are overstretched and hard to recruit in under-resourced areas
- **Poor infrastructure :** power cuts, broken equipment, and poor roads create everyday barriers
- **Lack of long-term data :** more research is needed to prove what works and secure wider investment

Methodology

Study design: Narrative literature review
Databases: PubMed, EMBASE, WHO Global Health Library
Period: 2010–2025
Search terms: "trauma care," "emergency medicine," "low-resource settings," "innovation"

Key Innovations

1 Training More People to Help

There aren't enough doctors in many low-income countries. So nurses, community health workers, and local volunteers were trained to recognise and respond to injuries. This simple shift saved lives and can be rolled out quickly and cheaply almost anywhere.

2 Low-Cost Technology

Expensive equipment isn't always available , so teams got creative. Portable ultrasound (POCUS - point of care ultrasound) , solar-powered lights, and basic airway tools allowed doctors to diagnose and treat patients who would otherwise have had no care at all.

3 Pre-Hospital Care

In rural areas, waiting for an ambulance can be fatal. Motorcycle ambulances, trained community first responders and local paramedic schemes helped get basic care to patients much faster , closing the gap between injury and treatment.

4 Simplified Triage & mobile communication

Simple, adapted triage checklists helped staff quickly decide who needed urgent care. Mobile phones connected first responders to hospitals in real time , improving coordination and saving critical minutes.

Results & Discussion

Innovation Area	Example	Impact
Task-Shifting	Clinical officer training	Earlier recognition
Low-Cost Technology	Portable POCUS	Faster diagnosis
Pre-Hospital EMS	Motorcycle ambulance	Rural access
Triage Protocols	Adapted tools	Better patient flow
mHealth Comms	Mobile phone networks	Coordination

Relevance to high-income settings

The idea that wealthier countries have nothing to learn from low-resource settings is outdated. Here's the evidence:

- **POCUS** i.e. handheld ultrasound scanners, were refined out of necessity in under resourced hospitals, are now standard in emergency departments across the UK and are faster, cheaper and just as effective as traditional imaging
- **Task-sharing** i.e. giving nurses and paramedics expanded clinical roles , was once seen as a last resort. It is now recognised as a smart, scalable solution to NHS workforce pressures
- **Drone delivery** of blood and medical supplies is another example of reverse innovation. Rwanda's Zipline drone network cut blood delivery times from 4 hours by road to under 20 minutes and helped reduce postpartum haemorrhage mortality by more than 50% in hospitals that adopted it. Health systems in the US and Europe are now exploring the same model for remote and rural communities
- **Telemedicine** : when the nearest neurosurgeon is hours away, rural providers found a way around it. Virtual specialist consultations, first normalised in LMICs(Low and middle income countries), are now a growing part of NHS practice

Conclusion

The innovations explored share something in common : they were built under pressure, with limited resources, by people who had no other choice. And they worked.
Motorcycle ambulances, drone-delivered blood, task-sharing, and mobile triage tools are not stopgap measures, they're blueprints for faster, smarter and more equitable trauma care everywhere.
As healthcare systems globally face growing demand, shrinking budgets, and workforce shortages, the question is no longer whether high-income countries can learn from low-resource settings. The question is why it has taken this long.

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Think Beyond Stroke: Statin Associated Anti HMGCR Necrotising Myopathy on the Acute Medical Take

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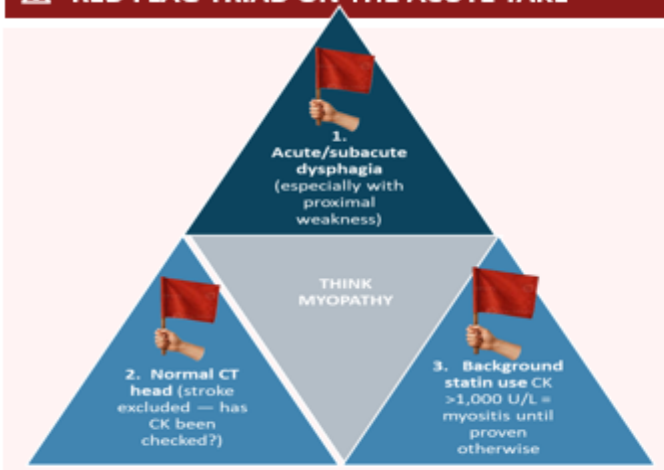
▶ INTRODUCTION

- ✓ **Immune-mediated necrotising myopathy (IMNM)** is a rare idiopathic inflammatory myopathy
- ✓ **Anti-HMGCR IMNM:** ~2–3/million/year (rising to >20/million in statin users) [3]
- ✓ Median statin exposure to diagnosis: **3 years**[3]
- ✓ **Classical presentation:** symmetrical proximal weakness + CK >1,000 U/L.
- ✓ On the acute take, dysphagia and functional decline are frequently misattributed to **stroke or statin myalgia** — delaying immunotherapy

▶CASE PRESENTATION

•81F, background of: dyslipidaemia on Atorvastatin 20 mg/day commenced 18 months prior, complains of a 12 month Hx of progressive proximal leg weakness
• O/E Proximal Muscles: MRC Grade 1/5 LL , 3/5 UL
•6-week rapid decline: unable to walk; 14 kg weight loss
• 1-week **worsening dysphagia** + oral candidiasis; no other focal neurology

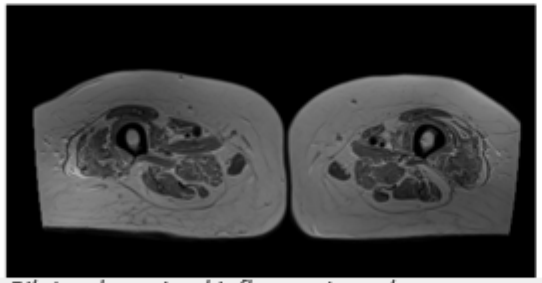
⚠ RED FLAG TRIAD ON THE ACUTE TAKE



▶ STROKE MIMIC → MYOSITIS: DIAGNOSTIC PATHWAY

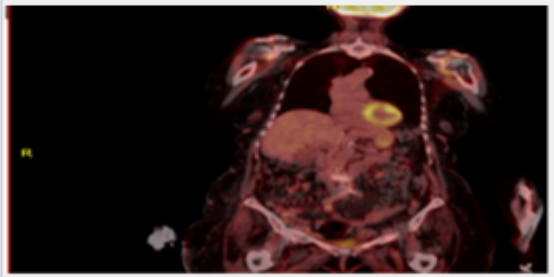
Elderly Pt. Acute dysphagia Falls / weakness → CT Head Requested (Normal) → Check CK >1,000 U/L? Proximal weakness? → MRI Thighs Myositis serology Biopsy + PET-CT → **Anti-HMGCR IMNM confirmed? Consider Early IVIg**

Fig 1.0 — MRI of Thighs



Bilateral proximal inflammatory changes

Fig 1.1 — PET-CT Scan



PMR-type pattern FDG- no occult malignancy.

▶CREATININE KINASE (CK) TREND HIGHLIGHTS

CK at presentation	After IVIg induction	July 2025
5,375 U/L	2,946 U/L	1,319 U/L

By 2026: The patient was standing with assistance · dysphagia resolved · strength improved

▶DISCUSSION

- ✓ Even low-dose, short-duration statin use can trigger anti-HMGCR IMNM (18 months here vs. median 3-year exposure — a shorter window than typically described).
- ✓ Front-door CK + pattern recognition shifted the diagnosis from a stroke pathway to inflammatory myopathy, averting catastrophic delay.
- ✓ BSR 2022 guideline [4]: IVIg supported for severe/refractory disease with bulbar involvement
- ✓ Early IVIg (pending results) = measurable functional recovery

▶ METHOD & RESULTS

Design: Single-centre case report

Biochemistry & serology:
- CK 5,375 U/L; normal CRP/ESR; ALT 129; mildly ↑TSH; weakly +ANA, ENA/dsDNA negative
- Anti-HMGCR positive (specialist assay)

Imaging:
- CT head + CT-TAP normal (no malignancy)
- MRI thighs *(Fig 1.0)* → florid proximal inflammatory changes
- PET-CT (*Fig 1.1*) → PMR-type uptake, no occult malignancy

Neurophysiology
- NCS confirming proximal myopathy

Histology
- Muscle biopsy → necrotising myopathy

Management
- IVIg (2 g/kg, Dalakas protocol)+ prednisolone (early taper)
- Supportive measures: Statin cessation; antifungal therapy

▶ 3 PRACTICAL LEARNING POINTS

1. **Always check CK** in undifferentiated dysphagia or unexplained falls.
2. Dysphagia in a myopathic context = **red flag** for bulbar and respiratory compromise.
3. Seek early **Rheumatology/Neurology input** — IVIg pending results in severe cases improves outcome.

References: [3] Tansley SL et al. Rheumatology. 2025;64:4995–5003. Lilleker JB et al. [4] BSR guideline IIM. Rheumatology. 2022;61:1760. [5] Dalakas MC. Muscle Nerve. 2020;62:444.

Thrombotic risk in Inflammatory Bowel Disease : Unusual complication in Ulcerative Colitis

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Gastroenterology, King's College Hospital NHS Foundation Trust, London

Background

•IBD: 2–3× increased VTE risk
• Highest during active disease/hospitalisation
•CVST rare (<1%) but high mortality

Case Presentation

•71F, active UC on infliximab
•Headache, right sided weakness, vomiting
•NIHSS 10 | BP 199/103

Initial Assess ment

• CT: no haemorrhage
• CTA: no LVO
• Perfusion mismatch (27 mL)
→ Thrombolysis given

Clinical Timeline

•Headache → deficit
•CT normal / CTA no LVO
•Perfusion mismatch
•Thrombolysis
•Seizures + deterioration
•CVST + ICH + SAH
•Death (48h)

Pathophysiology

•Inflammation → cytokines
•Endothelial dysfunction
•Platelet activation
•Coagulation imbalance
→ Hypercoagulable state

Diagnostic challenge

•Mimics arterial stroke
•Early CT may be normal
•Perfusion misleading
• Risk of misdiagnosis

Key learning points

•Consider CVST in IBD
•Headache + deficit ≠ stroke
•Normal CT ≠ exclusion
•Early venous imaging essential

Clinical Impact

•Need CT/MR venography
•Improve stroke pathways
•IBD = prothrombotic

When to suspect CVST

•Headache prominent
•Atypical stroke
•Seizures/deterioration
→ Do CT venogram

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A Well Distributed Structured Handover Tool Improves Safety and Documentation in General Medicine Wards

Two-Cycle Quality Improvement Project

Authors: Ifunanya Agu-Jefferson, Obafemi Adesanya, Osagioduwa Atoe-Imagbe,Obiosa Olisa

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Introduction

• Safe weekend handover is critical in general medicine, particularly when weekend staffing is reduced.

• Inconsistent and incomplete handovers can contribute to communication failures and adverse outcomes.

• The National Institute of Health and Care Excellence recommends structured handovers in acute settings to standardize communication.

• This project assessed whether a structured, well-distributed handover template could improve documentation quality and perceived safety.

Methods

• Setting: Four general medicine wards, West Cumberland Hospital, UK.
• Period: January–June 2025.
• Baseline questionnaire explored completeness of existing handovers.
• Domains reviewed: patient identifiers, diagnosis, weekend plan, escalation status, and ceiling of care / DNACPR.
• Intervention: structured handover tool distributed electronically and in print, supported by training, feedback, and PDSA cycles.

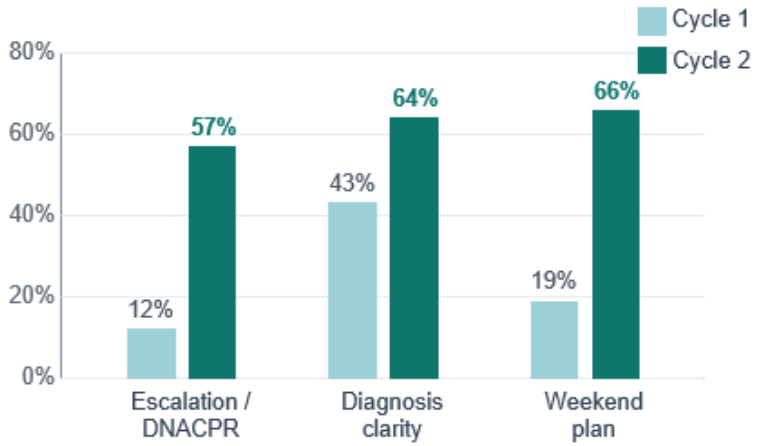
Key Findings

Post-intervention documentation improved across all measured indicators:

• Escalation plan & ceiling of care / DNACPR rose from 12% → 57%
• Diagnosis clarity: 43% → 64%
• Weekend plan: 19% → 66%

Based on relative change, the highest improvement was seen in escalation plan and ceiling of care / DNACPR documentation

Figure 1. Documentation completeness before and after intervention



PDSA Intervention Summary

• Introduced a standardised handover template.

• Distributed in both digital and printed formats to improve accessibility.

• Reinforced use through training and staff feedback.

• Iterative refinement supported by Plan–Do–Study–Act cycles.

Conclusion

A structured, well-distributed handover template markedly improved weekend handover documentation and perceived safety. Embedding mandatory escalation and DNACPR / ceiling-of-care fields within digital systems may improve sustainability and further enhance patient safety.

Take-home Message

Simple, accessible structure improves handover quality. Better documentation supports safer weekend care on general medicine wards.

Short postsurgical antibiotic therapy for implant related spinal infections (SASI trials) - a stratified unblinded randomized-controlled non-inferiority trial

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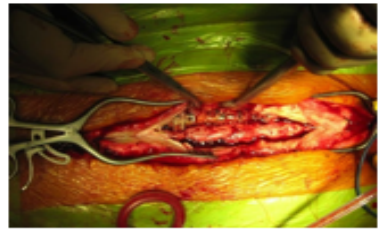
Departments of Orthopedics, Infectious Diseases, Balgrist University Hospital, Zurich, Switzerland



RCP Medicine 2026, London

BACKGROUND

The minimum duration of the postoperative systemic antimicrobial treatment for implant-related spinal infections remains unclear.

METHODS

We randomized adult spine patients with retained implants into short-term (six weeks) and long-term (twelve weeks) postoperative antibiotic treatment at a 1:1 ratio (non-inferiority margin 10%).

This is the last interim analysis before study end in April 2026.

RESULTS

We compare 83 infection episodes with 6 weeks' therapy against 85 cases treated with 12-weeks of antibiotics. The median number of surgical debridement was 1 in both arms.

Overall, 11% in the short treatment arm revealed a "clinical failure" in the short and 14% in the long arm (9/83 vs. 12/85; p=0.52).

The numbers for "microbiologically-identical recurrence" were 2/83 (2%) vs. 1/85 (1%), p=0.55, respectively.

The proportion of serious adverse events (SAE) were 21/49 versus 28/49 (p=0.16)), of which 4 vs. 10 were antibiotic-related (p=0.08).

Non-inferiority assessments

The formal non-inferiority for "microbiologically-identical-recurrence" situated within a 5%-margin (2.1% percentage points [90%CI 2.2% to 4.6%]), and that of "clinical failure" at 10%-margin (5.2%, -11% to +5%).

> Trials. 2020 Feb 6;21(1):144. doi: 10.1186/s13063-020-4047-3.

Short postsurgical antibiotic therapy for spinal infections: protocol of prospective, randomized, unblinded, noninferiority trials (SASI trials)

Michael Betz [1 2], Ilker Uçkay [3 4 5], Regula Schüpbach [6], Tanja Gröber [6], Sander M Botter [7], Jan Burkhard [8], Dominique Holy [8], Yvonne Achermann [9 10], Mazda Farshad [1 2]

n = 168	6 weeks AB	*p* - value	12 weeks AB
Infections	**83**		**85**
Median number of debridement	1	0.28	1
Serious Adverse Events	21	0.16	28
Antibiotic-related Adverse Events	4	0.08	10
Clinical Failure	**9**	**0.52**	**12**
Microbiological Recurrence	**2**	**0.55**	**1**

CONCLUSIONS

After surgical debridement, a 6-week postoperative antibiotic duration is non-inferior to12 weeks for implant-retained spinal infections in adult orthopaedic patients.

Trial registration number: NCT04048304.

EVALUATING THE RISK OF MAJOR ADVERSE CEREBROVASCULAR AND CARDIOVASCULAR EVENTS IN CROHN'S DISEASE PATIENTS TREATED WITH BIOLOGICAL THERAPIES: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

IOANNIS PERROS, BALAMRIT SINGH SOKHAL, BENJAMIN BISHOP, CHRISTIAN MALLEN

Keele University

Royal Devon University Healthcare NHS Foundation Trust

INTRODUCTION

Biological therapies have become a cornerstone of Crohn's disease (CD) treatment, although their cardiovascular safety is debated. Recent randomised controlled trials (RCTs) have started using **adjudication committees** to verify reported Major Adverse Cerebrovascular and Cardiovascular events (MACCEs).

OBJECTIVE

To investigate the risk of MACCEs in CD patients receiving biological agents in induction and maintenance of remission RCTs.

METHODS

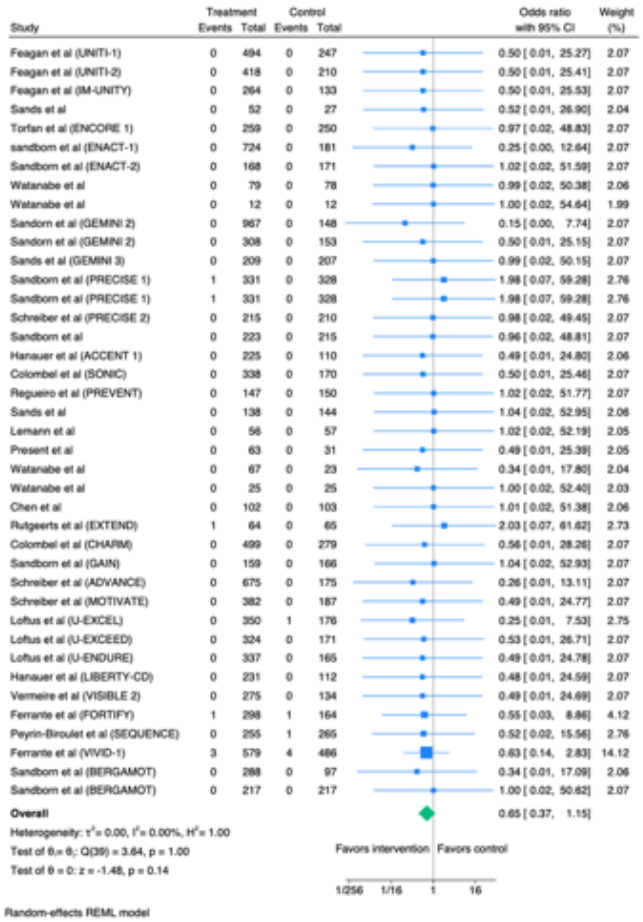
Following PRISMA guidelines, major databases were searched for RCTs comparing biologics with placebo or active comparators in CD. Data were pooled using random-effects modelling with 95% confidence intervals (CIs)

RISK OF BIAS

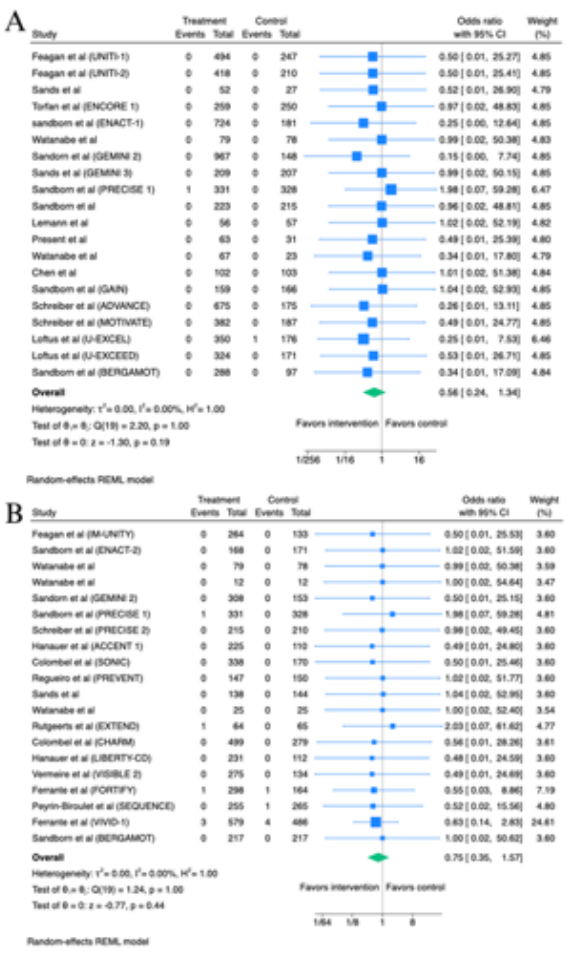
Overall there was a **low risk of bias**

FIGURES

1. MACCES OVERALL REGARDLESS OF TRIAL DESIGN



2.MACCES IN INDUCTION (A) AND MAINTENACE (B) TRIALS



RESULTS

Forty RCTs, including 17,718 patients, were analysed; **17,271 (62.9%) received biologics** with demographics comparable to controls.

SYNTHESIS

There was **no increased MACCE risk:**

Overall:

(OR=0.65, 95%CI:0.37,1.15, P=0.14)

Induction trials:

(OR=0.56, 95%CI:0.24,1.34, P=0.19)

Maintenance trials:

(OR=0.75, 95%CI:0.35,1.57, P=0.44)

The **heterogeneity was low** for all outcomes (I2=0.00%, P=1.00).

Subgroup analyses found **no increased risk with individual agents or drug classes*.**

CONCLUSIONS

Biological agents **did not increase MACCE risk** in CD induction and maintenance trials. Our findings suggest a **slight cardioprotective effect**. Longer follow-up and real-world data are needed to confirm these results.

*Anti-TNFs (Certolizumab, infliximab, Adalimumab), Anti-integrins (Vedolizumab, Natalizumab, Etrolizumab, Mirikizumab), Anti-ILs (Ustekinumab, Risankizumab), JAK-inhibitors (Upacitinib)

Prevalence of Newly Detected Cardiovascular Risk Factors Among First-Time Executive Check-Up Clinic Attendees in a Tertiary Care Centre in South India

The RCP annual conference Medicine 2026 Abstract competition MED26

Dr Kaamil Zubair Rabbani Amaanulla[1] , Dr Rukhsar Abdur Rahim Mulla[1] , Dr Prasanna Kumar[2] , Dr Mathew Thomas[3]
[1]Registrar, Internal Medicine; [2]Senior Consultant, Internal Medicine; [3]Professor and Senior Consultant in Hematology and Internal Medicine

Objective:

To determine **the prevalence of previously undiagnosed cardiovascular and metabolic risk factors** – hypertension, type II diabetes melllitus (including pre-diabetes), dyslipidaemia, obesity, fatty liver disease, and smoking – among first-time attendees of a preventive executive health check-up at a tertiary hospital in South India.

Methods:

- ✓ We retrospectively reviewed records of **1,014 asymptomatic adults** undergoing their first preventive check-up in 2019 at a tertiary hospital in Kerala, India.
- ✓ **Exclusion criteria** - Those with prior diagnoses or treatment.
- ✓ Data included **demographics, clinical findings, and lab results**.
- ✓ **Risk factors** were defined using standard criteria for hypertension, type II diabetes mellitus, pre-diabetes, dyslipidemia, obesity (BMI ≥25 kg/m²), fatty liver(ultrasound), and current smoking.
- ✓ **Prevalence** was assessed using descriptive statistics.
- ✓ Institutional ethics approval was obtained for the study.

Results:

Cohort: 1,014 participants; mean age 41 years; 63.3% male; majority (60.2%) aged 30–49 years.

1. **Overweight/Obesity (BMI ≥25 kg/m²): 64.2%**
   20.5% obese. Only ~33% had normal BMI (18.5–24.9); 2.7% underweight.

2. **Hypertension (newly detected): 62.7%***:* ≥130/80 mmHg (ACC/AHA classification)

   Stage 1: 130–139/80–89 mmHg → 43.5%
   Stage 2: ≥140/90 mmHg → 19.2%
   Elevated BP: 120–129/<80 mmHg → 4.6%

3. **Type II Diabetes: 8.8%** (elevated fasting glucose/HbA1c)
   Pre-diabetes: 28.3%

4. **Dyslipidaemia (any abnormal lipid): 82.0%**
   Total cholesterol ≥200 mg/dL: 42.7%
   LDL ≥100 mg/dL: 77.5%
   Low HDL (<40 mg/dL): 32.4%

5. **Fatty Liver (**ultrasound evidence of hepatic steatosis ± elevated ALT) **: 55.4%**
   Higher in men: 62.1% vs women: 44.2%
   Elevated ALT (>40 U/L): 19.4%

6. **Smoking: 8.6%;** 15% men

Clustering of Risk Factors:

- ✓ ~90% had ≥1 cardiometabolic risk factor
- ✓ 82% had ≥2 risk factors concurrently

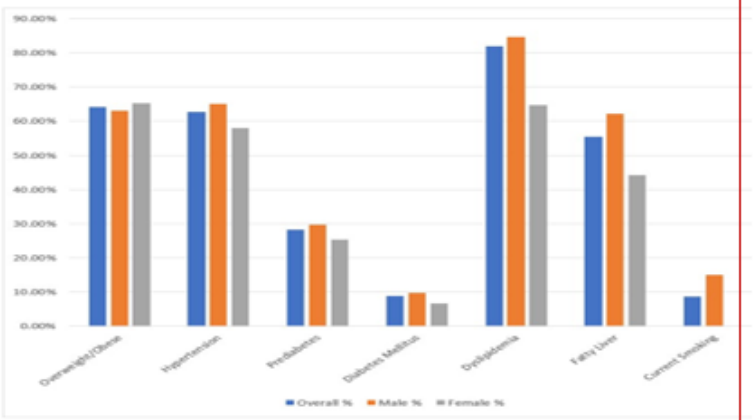


Fig 1 - Prevalence of Cardiometabolic risk factors by sex

RISK FACTOR	NEWLY DETECTED PREVALENCE (OVERALL)	MALE	FEMALE
Overweight/obese	64.2%	63%	65.3%
Hypertension	62.7%	65%	58%
Type II Diabetes	8.8%	29.8%	25.3%
Pre-diabetes	28.3%	9.8%	6.7%
Dyslipidaemia	82%	84.7%	64.7%
Fatty liver	55.4%	62.1%	44.2%
Current smoking	8.6%	15%	0%

Table 1 - Prevalence of Cardiometabolic risk factors by sex

Conclusions:

- ✓ In this cohort of asymptomatic adults undergoing a first-time preventive health check, we **found a high burden** of previously unrecognized cardiometabolic risk factors.
- ✓ Nearly two-thirds were overweight or obese, over half had hypertension or pre-hypertension, one in three had dysglycemia, four in five had dyslipidemia, and more than half had fatty liver on screening – **all identified for the first time.**
- ✓ These findings **highlight the value of preventive check-ups** in detecting hidden cardiovascular risks and the need for early, targeted intervention to reduce future disease burden.

References:

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An Audit of Vitamin D and Calcium Supplementation in Patients on Anti-Resorptive Therapy in Secondary Care

Dr Kanishka Manivannan[1*], Dr Bernadette Pais[1], Dr Sarang Chitale[1]
[1]Wrightington, Wigan and Leigh NHS Foundation Trust

Wrightington, Wigan and Leigh NHS Foundation Trust

BACKGROUND AND METHODS

Background:

Osteoporosis causes about 200,000 fractures/year, placing a major burden on healthcare.[1] Vitamin D deficiency remains prevalent in UK high-risk groups, impacting bone health.[2] Optimizing calcium and vitamin D status in line with 2024 NOGG guidelines[3] is essential to maximize treatment effectiveness and reduce fracture risk.

Objective:

Evaluate secondary care monitoring of Vitamin D/Calcium against 2024 NOGG standards.[3]

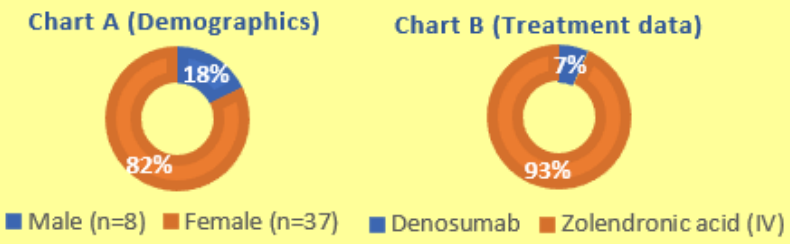
Methodology:

Retrospective observational study (1 August – 30 September 2025).

Cohort:

N = 45 patients (5 excluded due to incomplete records/death). Mean age = 74.1 years.

Figure 1: Cohort Demographics & Treatment Breakdown



AUDIT FINDINGS vs. NOGG 2024 GUIDELINES

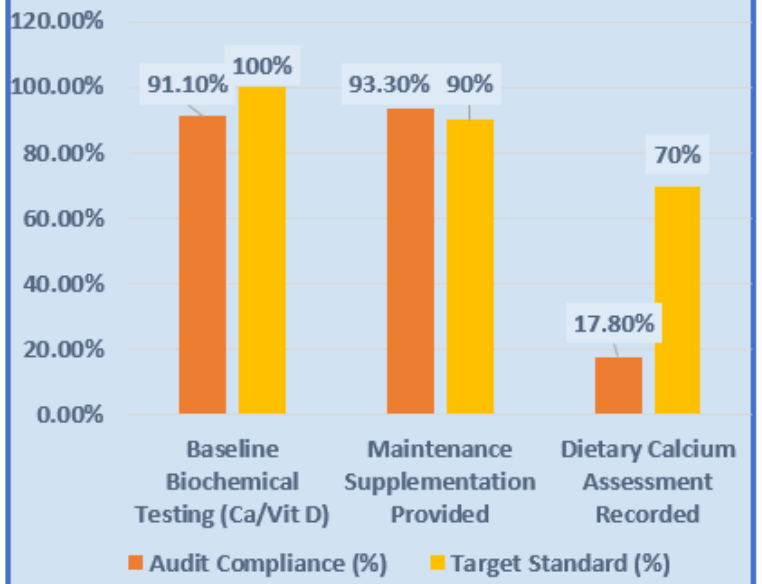


Figure 2: Audit compliance vs. Target Standards

Results:

Clinical Successes: High rates of biochemical testing (91.1%) and maintenance supplementation provision (93.3%) demonstrate effective baseline osteoporosis care.

The Critical Gap: Severe under-documentation of dietary calcium assessments (17.8%) prior to anti-resorptive therapy.

CONCLUSION

This audit highlights robust osteoporosis care, with excellent DEXA utilization and prompt follow-up, while identifying critical gaps in dietary calcium assessment and documentation of vitamin D supplementation in patients on anti-resorptive therapy.

INTERVENTIONS

1) Educate: Train resident doctors and specialist nurses on rapid dietary calcium assessment techniques and accurate documentation.

2) Standardize: Implement standardized electronic documentation workflows for clinical follow-ups.

3) Re-audit: Close the audit loop with a repeat cycle in 3 months to ensure sustained adherence to NOGG standards.

References:
1. NHS services for falls and fractures in older people are inadequate finds national clinical audit www.rcp.ac.uk/news-and-media/news-and-opinion/nhs-services-for-falls-and-fractures-in-older-people-are-inadequate-finds-national-clinical-audit
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3. Clinical guideline for the prevention and treatment of osteoporosis. www.nogg.org.uk

Improving medical student inclusivity and increasing opportunistic ward-based teaching in the clinical setting; Initiation of the Teaching Resident Lanyard Scheme

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1. University Hospitals Plymouth NHS Trust 2. University of Plymouth

Introduction

In busy ward-based settings, often with minimal continuity across clinical teams, medical students may lack a sense of belonging and feel uncertain about whom to approach for teaching and support. This can limit engagement and learning.[1] The aim of the initiative was to increase student confidence in accessing ward-based teaching and the frequency of opportunistic bedside teaching by improving the visibility of resident doctors who are keen to teach, through the use of identifiable lanyards, while generating opportunities for doctors to teach and receive feedback.

Method

September 2024 - March 2025

Internal Medicine Trainees and teaching fellows volunteered as Teaching Residents and wore identifiable yellow lanyards (fig.1) in clinical settings.

Participants received guidance from the university on their supportive role.

Baseline surveys assessing teaching frequency and student–doctor interactions were distributed to students (n=148) and IMTs/fellows (n=14).

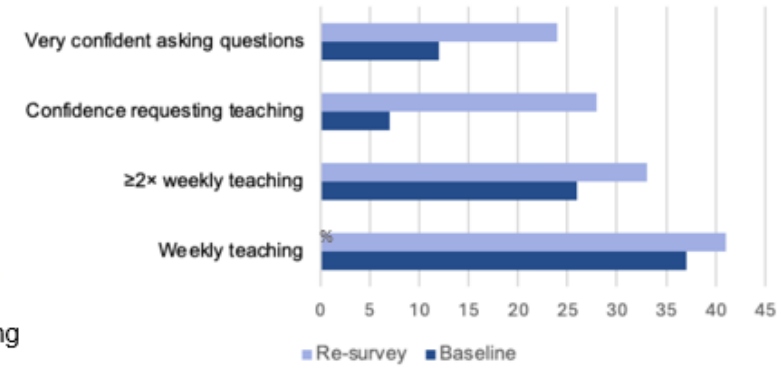
Re-surveys conducted after six months (students n=106; IMTs/fellows n=14). Outcomes included teaching frequency, student confidence in approaching clinicians, and clinician perceptions of student engagement.

Figure 1. Teaching fellow lanyard

Results

The scheme improved both teaching exposure and student confidence. The greatest effect was in confidence requesting teaching (+21%) and a doubling in students "very confident" asking clinical questions. Clinicians reported increased student approachability (57%) and improved access to teaching opportunities (100%).

Pre- and Post-Intervention Changes in Teaching Exposure and Student Confidence



Conclusion

This pilot of a low-cost intervention has demonstrated that increased visibility of those that are keen to teach in the clinical setting can help recentre teaching as a priority amongst clinical teams, improving the experience, engagement and confidence of students in approaching resident doctors for help, and widening opportunities for learning and feedback for doctors. This scheme has the potential for significant scalability, where since its pilot, the scheme has expanded to 116 teaching residents across medical and surgical specialities, indicating early uptake. Wider implementation will only continue to strengthen inclusivity of students amongst clinical teams and bolster student-clinicians' relationships.

References 1. Rae VI, Smith SE, Hopkins SR, Tallentire VR, Durning SJ, Ross S. From corners to community: exploring medical students' sense of belonging through co-creation in clinical learning. *BMC Med Educ.* 2024;24:474. doi:10.1186/s12909-024-05201-8

Intentional Tirzepatide (Mounjaro) Overdose resulting in Hypoglycaemia

M Sameer Ahmed, Thaw Tar Soe, J Joharatnam

Lister Hospital, Diabetes and Endocrine Department, East and North Hertfordshire Teaching NHS Trust

East and North Hertfordshire Teaching NHS Trust

Background

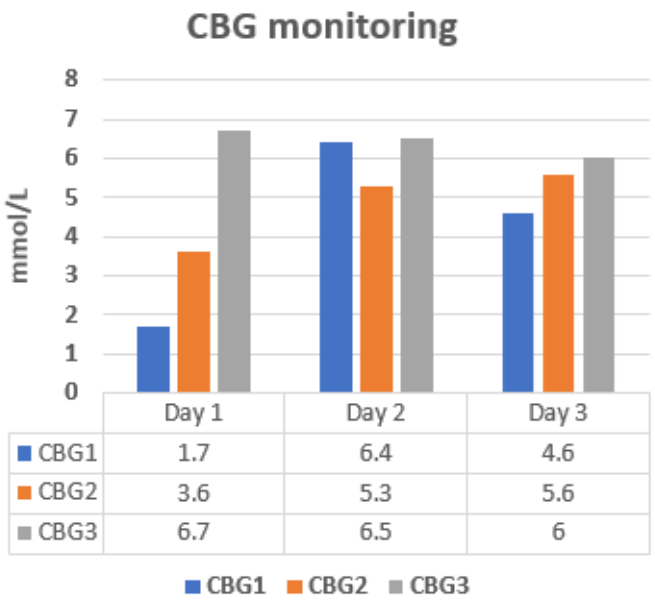
Tirzepatide is a dual glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1) receptor agonist1. It is increasingly prescribed for type 2 diabetes and weight management. Its use is expanding across the NHS and within private practices, including among self-funding patients who may access treatment outside structured monitoring framework.

Case presentation

A female aged 41 years with a past medical history of anxiety, depression and multiple substance abuse, presented to A & E with intentional self-administration of 60 mg Tirzepatide (two 7.5 mg pens). She developed nausea, vomiting, dizziness, feeling flushed and sore in limbs.

Observations and Investigations

On arrival, patient was dry, tachycardic and flushed. Hypoglycaemia was noted on arrival and in first 24 hours, Abdominal examination was unremarkable for signs and symptoms of pancreatitis. 1 Hourly CBGs maintained, aiming target CBGs >6. Observed for abdominal pain and baseline liver functions, U&E, CRP, Amylase were normal. Paracetamol, Salicylate, Ethanol levels were normal.



Management

Supportive; oral and iv fluids (10% Dextrose).
Critical care team was alerted for potential deterioration and developing necrotising pancreatitis.
Tox-base showed minimum guidance for Dual GLP 1 and GIP overdose.
Offered P/R Enema but was declined.
Given long half-life of Tirzepatide, patient was observed for 48-72hours.

Conclusion

Tirzepatide overdose may result in prolonged gastrointestinal symptoms, clinically significant hypoglycaemia, worsening of pre-existent retinal changes and pancreatitis. Management is supportive, with extended monitoring recommended due to the drug's long half-life (~5days).Increasing use of GLP 1/GIP receptor agonists needs clinician awareness of potential overdose presentations.

References

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ACUTE GENERALISED EXANTHEMATOUS PUSTULOSIS WITH ACUTE RENAL FAILURE CAUSED BY STINGRAY VENOM

Dr Miten Sudra[1], Dr Mousumi Zaman[2]

[1]Foundation Year Two Doctor, James Paget University Hospital; [2]Consultant Dermatologist, James Paget University Hospital

NHS James Paget University Hospitals NHS Foundation Trust

Introduction

Acute generalised exanthematous pustulosis (AGEP) is a severe adverse cutaneous reaction characterised by generalised superficial, non-follicular, sterile pustules on an erythematous base typically starting in the intertriginous areas before becoming widespread (1).

With an estimated incidence of 1-5 cases per million per year; over 90% of AGEP cases are caused by medications, most notably beta-lactams such as penicillin and cephalosporins, but other non-medication causes are seen (2).

Systemic involvement with multiorgan dysfunction is rare, with most cases resolving within two weeks of stopping the offending trigger. To our knowledge, we present the first case report of AGEP caused by stingray venom with features of organ dysfunction.

Case presentation

A Caucasian male in his 60s presented following GP referral for pustular rash in the trunk and groin which appeared approximately 12 hours after being stung by a stingray. Of note there was no allergy history, new medications started, heavy metal exposure, or recent travel.

The rash was characterised by multiple inflamed pustules in the trunk and groin areas (figure 1).

Figure 1: Day 5 from presentation. Multiple small, non-follicular pustules on the right thigh with resolving erythema in the groin and focal areas of desquamation.

Figure 2: Day 13 from presentation. Resolved areas of inflammation with post-inflamamtory pigmentation in the groin.

Investigations

- Blood tests revealed a leucocytosis consisting of moderate neutrophilia ($11.8x10^9$/L) and mild eosinophilia ($0.94x10^9$/L), acute liver injury with moderate hepatic dysfunction, severely reduced kidney function (urea 36.6 mmol/L, creatinine 991µmol/L, eGFR 4 mL/min/1.73m^2) and hyperkalaemia (6.3 mmol/L).
- Mid-stream urine, blood cultures, heavy metals in addition to other tests such as cytomegalovirus, Epstein-Barr virus serology, and hepatitis screen were negative.
- Skin biopsy confirmed AGEP diagnosis which showed subcorneal and intraepithelial spongiosis and pustule formation of the epidermis with mixed neutrophilic, eosinophilic, and lymphocytic infiltrates infiltrates seen in the dermis. Immunofluorescence was negative for IgG, IgA, and IgM.

Treatment and outcomes

He was treated with regular emollients, topical Steroids, mupirocin ointment, and intravenous fluids. Thirteen days from presentation, the AGEP had resolved with only residual post-inflammatory pigmentation remaining (figure 2).

Discussion and conclusions

Systemic manifestations of AGEP are usually limited to fever and neutrophilia with organ involvement being rare, In few cases, mild hepatic and kidney dysfunction is recorded however; our case is an atypical presentation with acute renal failure.

In the absence of known triggers, a negative infective workup, and positive biopsy findings, we theorise the onset of AGEP to be related to the stingray venom.

Many hospitals lack on-call dermatology advice however clinicians should recognise AGEP early as the reaction can be severe with multi-organ failure as a consequence.

References

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All data and images used with patient consent

Uncommon Case in TIA Clinic: Unilateral Cerebral Amyloid Angiopathy with TFNE

Ismail M[1], Mon H[2]
[1]Hull University Teaching Hospitals NHS Trust, UK [2]Hull University Teaching Hospitals NHS Trust, UK

INTRODUCTION

Cerebral amyloid angiopathy (CAA) common presentations:
- Lobar intracerebral haemorrhage
- Transient focal neurological episodes (TFNE)

TFNE can **mimic transient ischaemic attack (TIA)**
Unilateral CAA is rare and diagnostically challenging

CASE PRESENTATION

79-year-old male, independent
No vascular risk factors
Non-smoker, minimal alcohol
Symptoms (2 weeks):
Persistent right little finger numbness
Recurrent stereotyped episodes:
- Spreading numbness: right arm → face → upper back
- Duration: ~30 minutes
- Associated right arm incoordination

INVESTIGATIONS

MRI Brain:
- Extensive **left hemispheric cortical subarachnoid haemorrhage**
- Cortical haemosiderosis (prior bleeds)
- Acute peri-rolandic lesion (diffusion restriction)
- Old left temporal haematoma with gliosis

CT / MR Angiography:
- No vascular abnormalities

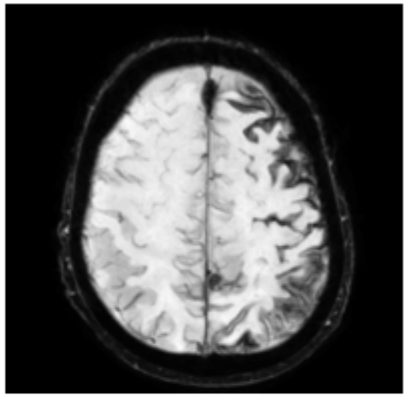

Figure 1. SWI showing extensive left hemispheric cortical subarachnoid haemorrhage and haemosiderosis.

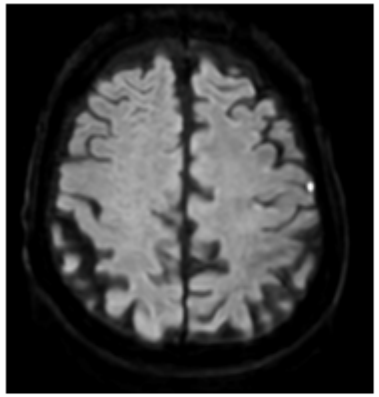

Figure 2. DWI B1000 bright foci showing blood products.

MANAGEMENT AND OUTCOME

Diagnosis:
- Probable **unilateral CAA (Boston 2.0 criteria)**
- TFNE likely representing **focal seizures**

Started on:
- Levetiracetam
- Antihypertensives (target <130/80 mmHg)

Marked reduction in:
- Frequency
- Severity of episodes

DISCUSSION

TFNE in CAA
- Often **misdiagnosed as TIA**
- Risk: inappropriate antithrombotics → ↑ haemorrhage

Typical features of TFNE:
- Recurrent, stereotyped episodes
- "Marching" sensory symptoms
- Positive ± negative phenomena
- Mechanism:
  - Cortical spreading depolarisation
  - Seizure activity

Why this case is unique
- Markedly **unilateral involvement**
- Mimics TIA but:
  - No vascular risk factors
  - Spreading sensory pattern
- Strong MRI evidence of CAA

Clinical insight
- Improvement with Levetiracetam → supports **seizure mechanism**

KEY LEARNING POINTS / CONCLUSIONS

- TFNE is a **TIA mimic** in elderly patients
- MRI is crucial for diagnosis
- Avoid antithrombotics if CAA suspected
- Consider **antiseizure therapy**
- Unilateral CAA, though rare, does occur

NHS
Hull University Teaching Hospitals
NHS Trust

Consent: Written informed consent for publication was obtained

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- Sokola M et al., 2024

Peri-operative cardiogenic shock requiring VA-ECMO: an occult pheochromocytoma

– a patient safety perspective

Muhammed Russal Latheef,Alicia Lepere,Anand Velusamy,Paul Carroll
Guy's and St Thomas' NHS Foundation Trust

Guy's and St Thomas' NHS Foundation Trust

Background
Pheochromocytoma is a rare but life-threatening cause of haemodynamic instability.
It may present as catastrophic peri-operative collapse and mimic primary cardiac pathology.

Case Snapshot
46-year-old female, no past medical history
Elective hysterectomy
<24 hours: hypertensive crisis (194/134 mmHg)
Acute pulmonary oedema
Cardiogenic shock
Required VA-ECMO

Figure 1. Clinical timeline
Surgery → Hypertensive crisis → Cardiogenic shock → VA-ECMO → Thromboembolism → Alpha blockade → Recovery → Adrenalectomy → Biochemical cure

Diagnosis
Key Findings
Severe global LV systolic dysfunction
6 cm right adrenal mass
Marked catecholamine excess

Marker	Value (pmol/L)
Metadrenaline	**88,904**
Normetadrenaline	**60,320**
3-methoxytyramine	**920**

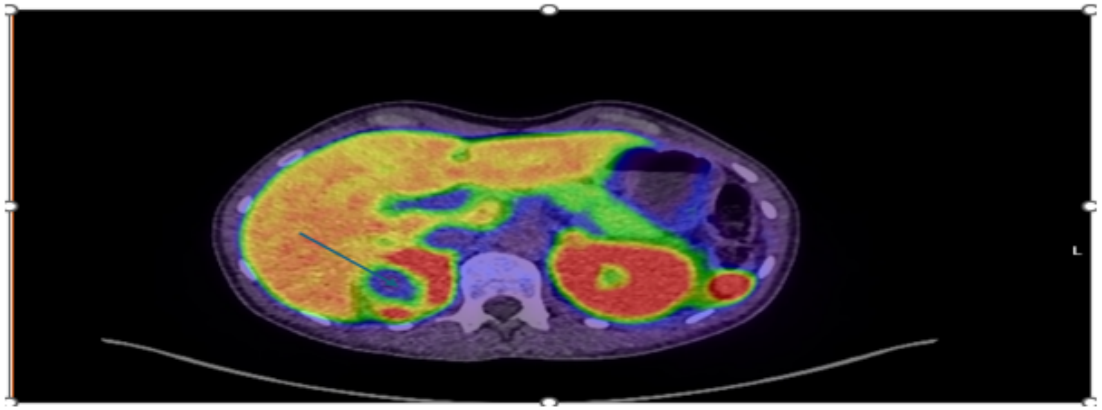

Figure 2. Ga-68 DOTATATE PET-CT demonstrating somatostatin receptor–avid right adrenal lesion with central photopenia consistent with necrosis. No evidence of metastatic disease.

Management
Alpha blockade (phenoxybenzamine, titrated)
Beta blockade after adequate alpha control
VA-ECMO support (72 hours)
Anticoagulation for thromboembolic complications
Delayed laparoscopic adrenalectomy

Complications
Pulmonary embolism
Iliac vein thrombosis
Bilateral occipital infarcts

Likely reflecting catecholamine-mediated endothelial dysfunction combined with low-flow physiology and ECMO-associated thrombogenicity.

Why this matters -Unrecognised pheochromocytoma can present as catastrophic peri-operative cardiac failure.

Learning Points
Consider endocrine causes in unexplained peri-operative shock
Avoid beta blockade before alpha blockade
Catecholamine-induced cardiomyopathy is reversible
Early multidisciplinary coordination is life-saving

Conclusion
Early recognition transforms a potentially fatal endocrine emergency into a curable condition.

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Consent
Patient consent obtained for presentation and publication.

When Autoimmunity Meets Phototoxicity: A Rare Coexistence of Systemic Lupus Erythematosus and Porphyria Cutanea Tarda

Nadeem Mir, Julia Day, Elizabeth Price | Great Western Hospitals NHS Foundation Trust, Swindon, UK

BACKGROUND & OBJECTIVE

- • PCT and SLE are distinct disorders that both cause photosensitivity.
- • PCT reflects hepatic uroporphyrinogen decarboxylase deficiency with porphyrin accumulation.
- • SLE reflects autoimmune dysregulation and may also present with photo-distributed skin disease.
- • Coexistence is rare and diagnostically challenging.

Objective
To present an uncommon overlap of porphyria cutanea tarda and serological SLE causing chronic photosensitive blistering.

CASE

- • 66-year-old man with 6 months of pruritic blisters and erosions on sun-exposed hands, forearms and scalp.
- • Initial suspicion was bullous pemphigoid, but indirect immunofluorescence was negative.
- • Porphyrin testing confirmed PCT: raised urine and plasma porphyrins with fluorescence peak at 620 nm.
- • Immunology supported SLE: ANA 1:80 speckled, dsDNA 86.4 IU/mL, anti-Ro52/Ro60 positive.
- • No renal, haematological or cardiopulmonary involvement; inflammatory markers were normal.

Clinical phenotype: chronic photosensitive blistering with dual biochemical and serological confirmation.

RESULTS

- • Dual diagnosis established: biochemical PCT plus serological SLE phenotype.
- • Hydroxychloroquine 200 mg daily, then 200 mg twice daily, stopped active blistering.
- • Sun protection and topical corticosteroids helped maintain control.
- • Hepatitis, alcohol and oestrogen exposure were excluded as triggers for PCT.

Low-dose hydroxychloroquine likely benefited both porphyrin clearance and autoimmune activity.

CONCLUSION

Photo-distributed blistering can reflect dual pathology rather than a single diagnosis.

1. **Recognise overlap** — Atypical blistering should prompt both biochemical and autoimmune assessment.
2. **Treat jointly** — Dermatology–rheumatology collaboration is central to diagnosis and trigger exclusion.
3. **Think mechanistically** — This case supports a possible immune–metabolic link between porphyrin regulation and autoimmunity.

References: Gibson & McEvoy 1998; Clemmensen & Thomsen 1982; Hindmarsh 1986; Cajamarca-Baron et al. 2025.

AUDIT OF THE INVESTIGATION OF ADRENAL INSUFFICIENCY

Naina Skariah, Reem Abdelgadir, Ahmed Hanafy
South Tees Hospitals NHS Foundation Trust

Background:

- Serum cortisol measurement between 8–9 AM is the recommended first-line test for suspected adrenal insufficiency.
- Current South Tees Trust guidelines define satisfactory morning cortisol levels as >448 nmol/L in males, >446 nmol/L in females not on oral contraception, and >619 nmol/L in females on oral contraception.
- NICE guideline NG243 (August 2024) states that a morning cortisol level >300 nmol/L makes adrenal insufficiency highly unlikely

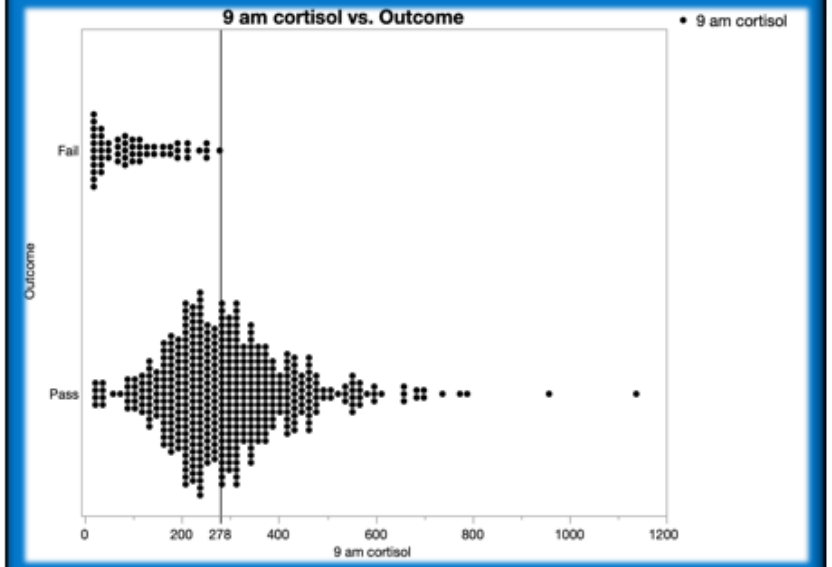
Aim:

To assess compliance with NICE NG243 and determine the optimal morning cortisol cut-off predicting a normal Short Synacthen Test(SST) outcome with maximal sensitivity.

Methods:

- Retrospective audit of 498 patients that underwent SST (2017–2023) in Diabetes Care Centre
- Data collected:
  - Patient demographics
  - Early morning cortisol levels (Siemens assay)
  - SST outcome (pass/fail)
- ROC curve analysis performed to determine optimal threshold

Results:



- Of the 498 patients, 24.49% underwent SST without a prior morning cortisol measurement.
- Highest cortisol level recorded for a 'Fail' outcome was 278nmol/L
- ROC analysis demonstrated 100% sensitivity for ruling out adrenal insufficiency at a morning cortisol threshold of 300 nmol/L.

Conclusion:

- Morning cortisol ≥300 nmol/L reliably excludes adrenal insufficiency
- Updating cortisol interpretative comments in the WebICE reporting system to align with NICE NG243 could significantly reduce endocrine specialist nurse workload and improve resource utilisation.

References

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NHS
South Tees Hospitals
NHS Foundation Trust

Consent: Appropriate permissions have been obtained for the collection and sharing of all patient data included in this work

Royal College of Physicians
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A simple Rhinovirus Infection unmasks an Undifferentiated Connective Tissue Disease and presents as life threatening Autoimmune Haemolytic Anaemia

Lahiri, Madhurima; Mukherjee, Sohini; Konar, Niladri

Introduction:

Undifferentiated Connective tissue diseases (UCTDs) are systemic autoimmune disorders characterized by heterogeneous clinical manifestations and diverse serological profiles. Overlap syndromes represent a distinct subset of CTDs in which patients exhibit clinical and immunological features of more than one well-defined autoimmune rheumatic disease.[1–4] Hematologic manifestations are well described in CTDs; however, autoimmune haemolytic anaemia (AIHA) is relatively uncommon.[5] Rhinovirus has not been directly linked to the initiation of Undifferentiated Connective Tissue Disease (UCTD), although, in patients with pre-existing autoimmune conditions, viral infections can sometimes act as a trigger for flares.[6] We report a diagnostically challenging case of undifferentiated connective tissue disease, presenting with rapidly progressive AIHA in the setting of interstitial lung involvement and multisystem inflammatory features, highlighting an unusual hematologic manifestation of CTD overlap, the flare up being triggered by a Rhinovirus infection.

Case Presentation:

A 58-year-old Indian woman with hypertension and diabetes presented with high-grade fever (104°F) with chills, vomiting, and dry mouth for 3 days, along with a 3-month history of inflammatory small-joint pain, Raynaud's phenomenon, and progressive limb oedema, deteriorating severely in the last 3 days.

Examination revealed bilateral pitting pedal oedema,

Fig 1: Limb swelling, small and large joints

oedematous hands, and basal chest crepitations. Nasopharyngeal PCR was positive for rhinovirus. HRCT thorax showed bilateral ground-glass opacities with smooth septal thickening and minimum mediastinal lymphadenopathy. Laboratory evaluation demonstrated rapidly declining haemoglobin with a positive direct Coombs test, consistent with autoimmune haemolytic anaemia. ANA (HEp-2) was negative, but anti-SSA was positive. Myositis panel revealed anti-PM/Scl-100, anti-Jo-1, and anti-Mi-2β positivity, suggesting an overlap syndrome. MRI foot showed inflammatory changes. Other infectious causes for AIHA were excluded. The patient was treated with high dose oral corticosteroids, leading to significant improvement in haemoglobin levels, joint pain, and oedema. On discharge she was given steroid sparing immunosuppressants.

Fig 2: Raynaud's phenomena

Discussion:

- Inflammatory arthritis, Raynaud's phenomenon, limb oedema, ILD, and a myositis-specific antibody profile facilitated recognition of an overlap syndrome despite a negative ANA assay.
- Prompt initiation of corticosteroid therapy led to marked hematologic and systemic improvement, consistent with established management strategies for immune-mediated haemolysis and inflammatory myopathy.
- Early recognition and comprehensive immunological workup are critical to avoiding diagnostic delay and optimizing outcomes in complex overlap syndromes like this one.

Learning points/ take-home messages:

- Autoimmune haemolytic anaemia, although a rare presentation of undifferentiated connective tissue disease, can play significant role in its acute presentation.
- Any infection, even with a trivial rhinovirus can unmask and promote a flare up of an apparently dormant Undifferentiated CTDs.

Fig 3: Background of slide: Rhinovirus

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Burden Of Prescribing: A Multi-centric Study On Anticholinergic Exposure And Frailty In West Wales Population

N.Shaju , A.Thankachan

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

Introduction

- The Office for National Statistics has projected a 73% surge in aged 85 years or more by 2045[1] and with three quarter of them being frail[2]necessitates an evaluation on its hidden drivers.
- Anticholinergic medication represents a modifiable risk factor contributing to adverse outcomes through falls and increased cognitive decline.[3]

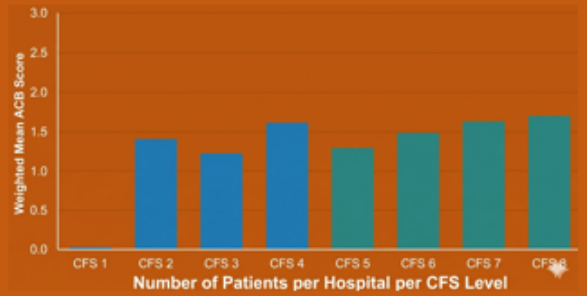
Aims

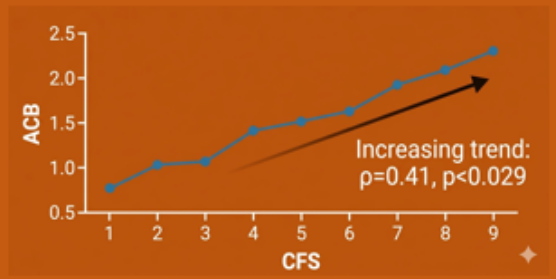
1. To assess the anticholinergic burden in elderly inpatient frail population
2. To evaluate the prevalence of polypharmacy
3. To measure the impact of pharmacological burden on clinical vulnerability

Materials and Methods

- Inpatients across four hospitals under Hywel Dda university health board ≥ 65 years were assessed for total drug count, Rockwood Clinical Frailty scale (CFS) and anticholinergic burden score (ACB).
- Association between ACB and CFS scores were analysed using Spearman's Rank Correlation threshold set at $p < 0.05$.

The Escalation of ACB scores and polypharmacy at CFS 5 and high anticholinergic exposure recognises a critical intervention point and necessitates the need for proactive de-prescription strategies.





Results

- Analysis of 660 inpatients showed 81.2% had anticholinergic exposure (median ACB score ≥ 1) with the mean ACB score of 2.65 in high frailty groups.
- A mean of 7.7 drugs per patient confirmed polypharmacy across all frailty tiers.
- Spearman's analysis confirmed a significant positive correlation between CFS and ACB scores ($\rho - 0.41$, $p < 0.029$)

Conclusion

- This study highlighted anticholinergic exposure[4] and polypharmacy[5] in our trust significantly exceeded national benchmarks. It identified high-risk phenotypes and actionable targets which warrants the need for establishing standardised medication pathway and longitudinal review framework for optimisation.

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Scan for full Reference list and supplementary data

Monkeypox in Healthcare Settings: Transmission, Exposure & Protection Among Healthcare Workers

Nusrat Fatima
Queen Alexandra Hospital, Portsmouth

BACKGROUND

Monkeypox (Orthopoxvirus) poses a significant **occupational risk** to healthcare workers through contact with infected patients and contaminated materials.

Key risk factors:

- Inadequate PPE provision
- Breaches in infection control
- Needlestick injuries during care

OBJECTIVE

To evaluate monkeypox transmission among healthcare workers and identify critical preventive strategies via a narrative review.

METHODS

Design: Narrative Review
Database: PubMed (2000–2024)
Included: 8 studies (7 case reports, 1 case series) — 9 patients

Search: *monkeypox virus, occupational infection, needlestick injury, occupational exposure*

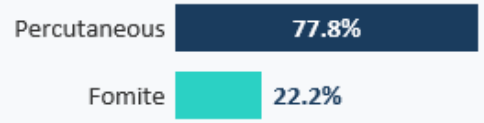
Excluded: Editorials, letters, non-English articles, non-human sources

KEY RESULTS

Demographics

77.8%	44.4%	~31 yr
Adults	Female	Mean Age

Mode of Transmission



Needlestick injuries during patient care were the predominant percutaneous route.

Clinical Presentation

Presenting Sign	n	%
Vesicle	2	22.2
Papule	2	22.2
Raised lesion / Blister	2	22.2
Macula / Nodule / Other	3	33.3

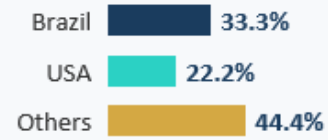
Systemic Symptoms (N=9)

- Malaise / myalgia: 55.6%
- Fever: 44.4%
- Lymphadenopathy: 33.3%

Mean incubation: 4.81 ± 2.44 days

GEOGRAPHIC & OUTCOMES

Geographic Distribution



Post-Exposure Management

33.3%	44.4%
Vaccinated	Medicated

DISCUSSION

Percutaneous transmission (needlestick injuries) was the dominant route in clinical settings.

Fomite exposure via contaminated surfaces underscores the need for rigorous disinfection.

Respiratory transmission remains inconclusive but cannot be excluded.

Significant gaps in prophylaxis — only one-third received vaccination.

Safety protocol compliance: 65.8%–80.0% across settings.

CONCLUSIONS

1. Monkeypox is a recognised occupational hazard among HCWs, primarily via percutaneous (77.8%) and fomite (22.2%) routes.

2. Post-exposure prophylaxis and vaccination effectively limit further spread.

3. Improved PPE use, infection control training, and broader vaccination access are essential.

RECOMMENDATIONS

- **Hand hygiene**
  Rigorous protocols as the first line of defence
- **PPE & disinfection**
  Appropriate access and surface decontamination
- **Needlestick prevention**
  Safety-engineered devices and sharps training
- **Vaccination access**
  JYNNEOS/ACAM2000 for high-risk HCWs
- **Surveillance & education**
  Integrated surveillance and regular training

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Presented at SIU 2025, Edinburgh

Comparative Effectiveness of Treatment Modalities for Non-Muscle Invasive Bladder Cancer: A Scoping Review of Occupational Exposures and Lifestyle Factors Contributing to Bladder Tumours.

Althea O. George (The Royal London Hospital) & Nwachukwu O. Nwachukwu (Darlington Memorial Hospital, County Durham and Darlington NHS Foundation Trust).

Introduction & Aim

The Burden: Non-muscle invasive bladder cancer (NMIBC) accounts for **75–85%** of all new cases. Despite being non-muscle invasive, it carries notoriously high recurrence and progression rates.

The Gap: While transurethral resection (TURBT) and adjuvant therapies are standard, modifiable risk factors are often overlooked in long-term treatment strategies.

Aim: To evaluate clinical treatment efficacy alongside occupational and lifestyle risk factors to inform comprehensive preventive strategies.

Methods

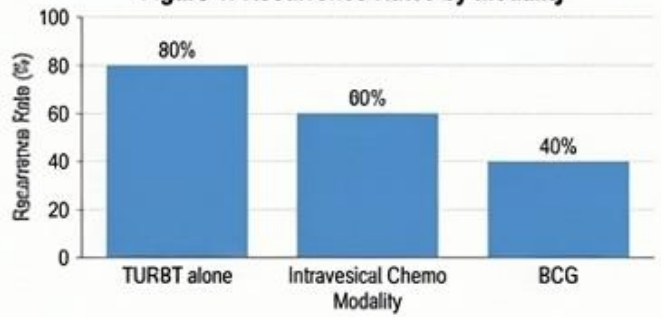
Framework: PRISMA-ScR (2000–2024).

Databases: PubMed, Embase, Cochrane.

Scope: 20 eligible studies encompassing RCTs, cohort studies, and systematic reviews. Extracted data on efficacy, recurrence, and exposure-related risks. Quality appraised via Cochrane RoB & Newcastle-Ottawa.

Results: Treatment Modalities

Figure 1: Recurrence Rates by Modality



- **TURBT alone:** Insufficient due to up to 80% recurrence.
- **Intravesical Cheme (a.g., Mitemyeln G):** Effective for intermediate-risk (20–40% recurrence reduction), fewer side effects.
- **BCG Therapy:** The most effective cption for high-risk NMIBC (40–60% reduction in recurrence/progression) but carries higher complication rates.

Results: Risk Factors

Smoking: Accounts for ~ **~50%** of all NMIBC cases.

Occupational Exposures: Aromatic amines & PAHs (dye, rubber, metalworking industries) increase risk by **2.5–4x**

Lifestyle Factors: High risk associated with obesity, low fluid intake (which concentrates carcinogens in urine), high red meat consumption, dlabetes, and chronic UTIs.

Conclusions

- **BCG** remains the gold standard for high-risk NMIBC, with Intravesical Chemotherapy valuable for intermediate-risk disease.
- **TURBT** alone is highly insufficient for long-term management.
- **Clinical Synthesis:** Preventing recurrence requires moving beyond clinical therapy. Integrating strict occupational and lifestyle exposure modifications into standard patient care is essential to improve long-term outcomes and reduce disease burden.

Mandatory Consent Declaration

The authors declare that appropriate permissions for collecting and sharing any patient data have been obtained as part of this competition.

References & Contact

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Contact: Nwachukwu.nwachukwu1@nhs.net

IMPROVING DOCUMENTATION OF DVLA DRIVING ADVICE IN ACUTE CORONARY SYNDROME: A QUALITY IMPROVEMENT PROJECT

Dr Onyinyechim Precious Abel, Dr Asfiya Ahmad-Sheikh

NHS University Hospital Southampton NHS Foundation Trust

Introduction

Acute coronary syndrome (ACS) patients who drive must follow DVLA-mandated driving restrictions after their event. Local review showed that this advice was often given verbally but not consistently documented in discharge summaries which should serve as a reminder for the patient and inform the GP, as well as providing medico-legal protection should the patient chose to drive against advice. This project evaluated current documentation practices and introduced targeted interventions to improve compliance with DVLA guidance.

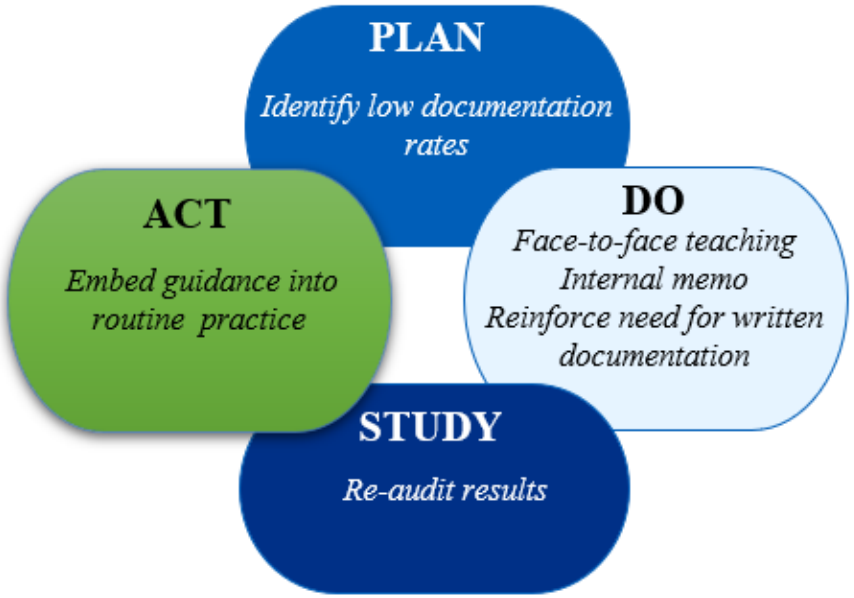
Methods

Cycle 1 (August–September 2023)

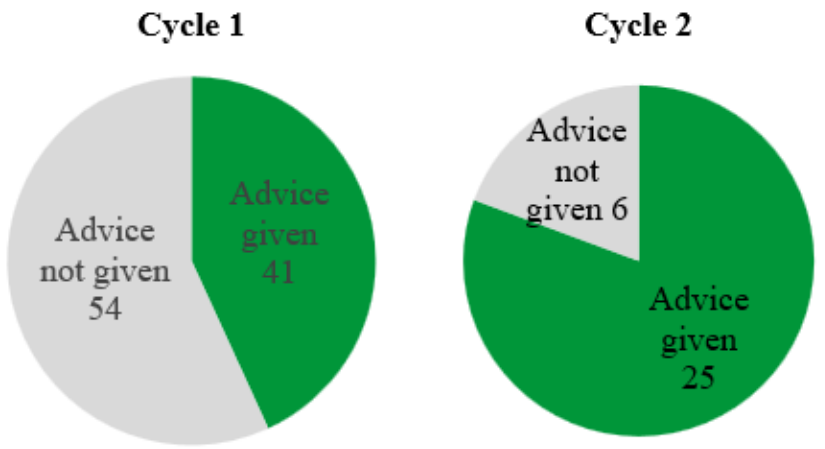
- Retrospective review of ACS patients who were drivers over a 2-month period
- Sample size 95 patients
- Data collected from electronic records + medical notes included driving status, cardiac rehabilitation advice and DVLA documentation in discharge summaries.

Cycle 2 (November –December 2023)

- Re-audited practice over a 1-month period using the same methodology, after interventions.
- Sample size 31 patients



Results



DVLA driving advice documentation improved from 43% to 81% following intervention.

Barriers Identified

- Limited awareness of DVLA guidance among junior doctors/ANPs.
- No discharge summary prompt/template.
- Reliance on verbal advice alone.

Key Lessons

- Clear communication and explanation of rationale improves engagement.
- Repetition of key messages supports sustainable change.

Next Steps

- Create a **permanent poster** summarizing DVLA guidance.
- Include DVLA guidance in **induction** for new staff.
- Explore adding **electronic prompts/templates when completing discharge summaries**

Conclusion

These findings demonstrate that simple, low-cost interventions delivered through iterative PDSA cycles can significantly improve compliance with DVLA guidance in ACS discharge documentation .

Spirometric Confirmation of COPD Among Hospitalised Patients:

A Retrospective Observational Study at a UK Tertiary Centre

NHS
University Hospitals of Coventry and Warwickshire NHS Trust

Opeyemi Kafi[1*]; Alan Kan[1]; Chidi Okechukwu[1]; Frank Olaniru[1]; Oli Chinazom[1]; Faareaha Ahmad[1]; Kamalika Chakrabarty[1]; Andrada Singh[1]; Sharose Hussain[1]; Jayanth Bhat[1]
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1 Background

Chronic obstructive pulmonary disease (COPD) is a major global health burden and a leading cause of hospitalisation and mortality. Despite guideline recommendations, COPD is often clinically diagnosed without confirmatory spirometry, increasing the risk of misdiagnosis, inappropriate treatment, and inefficient use of healthcare resources.[1,3]

2 Objective

To describe the availability of spirometric confirmation among patients hospitalised with a diagnosis of COPD exacerbation at a UK tertiary centre.

3 Methods

This retrospective observational study included adults admitted for COPD exacerbation at a university hospital in the United Kingdom between January 2022 and April 2024. Patients were identified using clinical coding, excluding those with concurrent asthma, newly diagnosed lung cancer, inpatient death, coding errors, or missing discharge documentation. Previous spirometry results (pre- or post-bronchodilator $FEV_1/FVC < 0.7$) were extracted from the electronic records. Demographic characteristics and hospitalisation patterns were analysed using descriptive statistics, t-tests, and chi-squared tests.

4 Key Findings

1,063	59.0%	41.0%	35.6%
Eligible Patients	Spirometry-Confirmed	Unconfirmed COPD	No Spirometry on Record

5 Results: Patient Characteristics

Among 1,063 eligible patients, 627 (59.0%) had spirometry-confirmed COPD, whereas 436 (41.0%) had unconfirmed COPD, including 378 (35.6%) with no spirometry and 58 (5.5%) with non-obstructive results.

Characteristic	Confirmed COPD (n=627)	Unconfirmed COPD (n=436)	p-value
Mean Age (years)	71.8	73.6	0.0075
Female (%)	49.6%	56.3%	0.0101
Mean Admissions	1.91	1.24	< 0.0001

6 Spirometry Status Distribution

7 Conclusions

Over two-fifths of patients admitted with a diagnosis of COPD lacked documented spirometric confirmation. These findings are consistent with national audit data reporting limited spirometry availability among hospitalised patients with COPD.[2]

These data highlight ongoing diagnostic uncertainty in acute care and demonstrate that hospital admissions represent an important opportunity for diagnostic clarification.

Integrating structured diagnostic review and targeted inpatient or post-discharge spirometry into existing pathways may support more accurate diagnosis, optimise long-term management, and improve healthcare resource utilization.

8 References

1. Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management, and Prevention of COPD. 2024 Report.
2. National Asthma and COPD Audit Programme (NACAP). COPD Clinical Audit 2019–2020. HQIP; 2021.
3. Fiore M et al. COPD overdiagnosis and overtreatment: a meta-analysis. J Clin Med. 2023;12:6978.

EXAMINING HOW NON-PHARMACOLOGICAL INTERVENTIONS THAT AFFECT SLEEP QUALITY IMPACT PAIN-RELATED NEUROTRANSMITTERS IN PATIENTS WITH FIBROMYALGIA

PARISA TELI, TOBY SMITH

1. BACKGROUND

Fibromyalgia (FM) is the third most common painful musculoskeletal condition[1], linked with sleep disturbances and neurotransmitter imbalances[2]. Second-line pharmacological management carries risks of polypharmacy and drug–drug interactions[3 4], so optimising non-pharmacological interventions is key.

Aim: Determine how non-pharmacological interventions affecting sleep quality impact pain-related neurotransmitters in adults with FM.

2. METHODS

Systematic search of five electronic databases (MEDLINE, Web of Science, CINAHL, Cochrane Library, PsycINFO) according to PRISMA guidelines. 1,879 records met inclusion criteria, yielding 5 included studies after screening, done in Rayyan. A systematic review was used to comprehensively and transparently summarise evidence, minimising bias and informing reliable conclusions. Inclusion criteria: Adult FM studies assessing sleep outcomes and neurotransmitter change(s) following a non-pharmacological intervention in English-language papers. Risk of bias assessed using Cochrane RoB[6 8 9 10] or ROBINS-I[7]. Data was written into a narrative synthesis due to clinical and methodological heterogeneity.

3. RESULTS

Screening yielded five eligible studies ROBINS-I identified moderate-serious risk of bias in one study[7], with remaining studies showing some concerns using Cochrane RoB[6 8 9 10]. All active interventions improved sleep quality, measured via the Nottingham Health Profile[6], Pittsburgh Sleep Quality Index[7 8], or sleep movements/self-reported duration[9]. Four studies reported neurotransmitter changes, shifting levels toward patterns more consistent with non-pathological FM. See Table 1 for more detail.

Intervention	Neurotransmitter Change					Sleep Quality
	Serotonin	GABA	Glutamate	Substance P	BDNF	
Acupuncture[6]	↑****			↓↓****		↑****
Vagal Nerve Stimulation[7]					-	↑**
Fecal Microbiota Transplant[8]	↑****	↑****	↓↓****			↑****
Massage[9]				↓*		↑*
Melatonin[10]					↓*	↑***

Table 1: Summary of all interventions, their effects on neurotransmitters, sleep quality and their respective p-values. - = >0.05, * = <0.05, ** = < 0.002 *** = <0.01, **** = <0.001

4. DISCUSSION

Causality: Remains unclear; only one study[6] tested neurotransmitters and sleep. A limited serotonin–sleep association was identified, with increased serotonin correlating with improved sleep scores only in the sham acupuncture group. This suggests that symptom improvement may not be fully explained by neurochemical changes alone.

Mechanisms: Potential mechanisms include broader central pain modulation. The gate control theory [11] proposes that non-nociceptive stimulation, such as acupuncture or massage, may alter excitatory-inhibitory signalling, contributing to both symptom relief and observed neurotransmitter shifts.

Long-Term Effects: Some neurotransmitter and sleep improvements persisted up to 12 months[8], exceeding typical medication duration.

Medication Context: Most included studies [6 7 8 9] implemented interventions alongside stable medication, supporting their role as adjuncts rather than standalone treatments

Evidence Gaps: Few non-pharmacological papers met inclusion criteria, limiting representation of therapies that have been tested in FM patients

5. CONCLUSION

These findings suggest a link between neurotransmitter change and sleep improvement in FM, though its strength remains unclear. More rigorous study of these and other interventions is needed to clarify FM pathophysiology, strengthen non-pharmacological management, and reduce reliance on second-line medication

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A Family Affair: Recognising Food-Borne Botulism as a Rare Cause of Acute Neurological Deterioration

Pharveen Jaspal[1] & Eliza Griffiths[2]

[1]Resident in Internal Medicine, [2]Consultant Geriatrician

NHS South Warwickshire University NHS Foundation Trust

The Prodrome:

- Mother and son present to ED with a 24-hour history of dizziness, diplopia and vomiting.
- Initial bloods and assessment unremarkable.
- Son suffered respiratory arrest and was admitted to the ITU.

Respiratory Failure: Progression to Type 2 respiratory failure necessitated emergency intubation and ITU transfer.

The Critical Nadir:

- Sudden development of new oxygen requirement and type 2 respiratory failure.
- Emergency intubation and transfer to the ITU.
- Lumbar punctures for both patients unremarkable.

Exclusionary Testing: Unremarkable CSF results from lumbar puncture shifted the focus away from inflammatory or infectious polyneuropathies.

Microbiological Confirmation:

- Stool samples return positive for *Clostridium botulinum* neurotoxin gene A.
- Food-borne botulism is officially confirmed.

Did you know?

There are 3 forms of botulism: food-borne, wound and intestinal. In the UK, food-borne botulism is extremely rare, with only **13 confirmed cases from 1992 to 2019** [1].

24 hours → 48 hours → Day 8 → Day 12

Descending Paralysis:

- Mother developed bilateral ptosis, horizontal gaze palsy, and dysarthria.
- The ED team and medical consultants' working diagnosis was botulism.
- Expert opinion favours excluding mimics such as Myasthenia Gravis & Miller Fisher Variant of Guillain-Barré Syndrome via CT head and lumbar puncture.

Clinical Intervention:

- Public Health England releases the botulism antitoxin.
- Decision made to treat empirically prior to microbiological confirmation.

Recovery:

- Following 12 days of invasive ventilation, the patient undergoes a surgical tracheostomy.
- Transferred to a specialist neuro-rehabilitation unit to begin recovery.
- The patient subsequently made a full neurological recovery and returned to functional baseline.

Key Turning Points

The 'Power of Two': The simultaneous neurological decline of two household members became the definitive red flag for toxin-induced pathology.

Learning Points

- **Clinical over Confirmation:** Do not wait for lab results; antitoxin should be administered based on clinical suspicion to improve outcomes.
- **Household Red Flags:** Multiple patients from one household with descending paralysis must be treated as an environmental/foodborne toxin emergency.
- **Addressing inequality:** Highlights the need for targeted food safety education and healthcare access for vulnerable populations.

1. Botulism | Health Knowledge [Internet]. Healthknowledge.org.uk (2025).

Consent has been obtained from the patient for the purposes of this presentation and associated publication.

DIAGNOSTIC PERFORMANCE OF DEEP LEARNING ALGORITHMS FOR ATRIAL FIBRILLATION DETECTION USING 12-LEAD ELECTROCARDIOGRAPHY: A STRUCTURED REVIEW

Prasanna Sakthi Aravazhi[1], Praveen Gunasekaran[1]

[1]Madras Medical College, Chennai, India

BACKGROUND

- Atrial fibrillation (AF) is the most prevalent cardiac arrhythmia worldwide and is associated with increased risk of stroke and heart failure
- AF may occur intermittently and asymptomatically, leading to delayed diagnosis
- Artificial intelligence (AI) enables analysis of 12-lead ECGs to detect AF
- Reported diagnostic performance varies across studies

Aim:

- To assess the diagnostic accuracy and clinical validation of AI-based AF detection

CONCLUSION

- AI ECG models show high diagnostic accuracy for AF detection
- Validation methodologies remain inconsistent
- Limited prospective evidence
- Further real-world validation is required

METHODS

- **Databases:** PubMed, MEDLINE
- Period: January 2018 – December 2025
- **Keywords:** deep learning, machine learning, ECG, AF

Inclusion:

- 12-lead ECG
- AI/deep learning models
- AUROC, sensitivity, specificity reported

Exclusion:

- Wearable-only studies
- Simulation models

REFERENCES

1. Attia ZI et al. Lancet. 2019
2. Choi JH et al. 2023
3. Kaminski LA et al. 2022
4. ESC Guidelines 2021

RESULTS

- 10 studies included
- AUROC: **0.87–0.98**
- Sensitivity: **>80–90%**
- Risk prediction AUROC: **0.75–0.85**

Key study:

- **Attia et al. (2019):**

AUROC 0.87 (single ECG)
AUROC 0.90 (multiple ECGs)

Limitations:

- Mostly retrospective
- Dataset heterogeneity
- Limited prospective validation

Table 1: Summary of included studies

STUDY	DESIGN	SAMPLE	VALIDATION	AUROC	SENS/SPEC
Attia 2019	Retrospective	180,922	Internal	0.87-0.90	79-83%
Kaminski 2022	Cohort	1,403	External	0.74	79%/66%
Choi 2023	ML	176,090	External	0.81-0.88	75-82%
Masumura 2023	Prospective	362	External	0.73-0.75	NR

CONSENT

All appropriate patient data permissions and ethical approvals were obtained where required.

"When Sicca Speaks Louder Than Serology: Biopsy-Proven Sjögren's disease"

PS, Salwa; Krishnan V, Abilash; Haseeb, Ajwad; Nazal, Mohammed ,Kerala University of Health Sciences ; Aster Medcity; Rajagiri Hospital

INTRODUCTION & METHODOLOGY

Definition: Chronic autoimmune disease characterized by lymphocytic invasion of exocrine glands, leading to sícca symptoms (e.g., dry mouth).

Epidemiology: Overall incidence: -3.5-11 per 100,000. Male incidence: 0.5-1.6 per 100,000. Female-to-Male ratio of ~9:1.

Clinical Challenge: Negative serological markers do not rule out the disease.

Objective: To emphasize the importance of histopathological confirmation in suspected seronegative Sjogren's disease presenting with chronic cough.

MATERIALS AND METHOD

Patient: 64-year-old male.

Setting: Pulmonology and Rheumatology departments

Study Design: Retrospective review of clinical findings, laboratory tests, imaging. histopathology, and treatment response.

CASE PRESENTATION & RESULTS

Presentation: 1.5-year history of severe dry cough and weight loss.
Clinical findings: Parotid and submandibular gland enlargement.

Investigations: Pulmonology function test : Normal.
CT Chest: Mlld flbrosis (ruled out pleuroparenchymal fibroelastosis).
Serology: ANA Negative

FDG PET-CT: Uptake in parotid/sub- mediastinal and cervical lymphadenopathy (Mimicking lymphoma).

Biopsy (Minor Salivary & Superficial Parotid Gland): Atrophic acini, dense chronic inflammatory infiltrate (lymphocytes), and lymphoid follicles with secondary germinal centers.

[FOCUS SCORE: 2]

Diagnosis: Sjögren's disease (2016 ACR/EULAR criteria).

[ESSDAI: 13]

MANAGEMENT

Treatment: Administered Rituximab and prednisolone due to systemic involvement.

Baseline	1-Month Follow-up
Patient Global Assessment (PTGA): 9/10	Patient Global Assessment (PIGA): 1/10
Severe Cough	Significant improvement in cough
Glandular Swelling	Glandular swelling reduced

CONCLUSION

Negative or low ANA does not eliminate a diagnosis of Sjogren's disease.
FDG-avid salivary gland enlargement can mimic lymphoma; histopathology is essential for confirmation.
Early tissue diagnosis and appropriate immunomodulatory treatment lead to major clinical improvement.

References:
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Devauchelle-Pensec V, et al. Ann Rheum Dis 2014;73:1881-6.

From Principles to Practice: Synthesizing Guiding Standards for AI-Enabled Simulation-Based Medical Education

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[2] Dubai Medical University Hospital, Dubai, United Arab Emirates

[3] Department of Internal Medicine, Faculty of Medicine, Nile University, Khartoum, Sudan

Background

Generative artificial intelligence is embedded in simulation-based education and training, supporting scenario design, assessment, feedback, debrief augmentation, and learning analytics. These capabilities may improve scalability and personalization, but also introduce risks including bias, misinformation, privacy breaches, reduced assessment integrity, and erosion of trust.

Methods

A systematic search of PubMed and Scopus was conducted from 1 January 2015 to 31 January 2025, limited to English language and human studies, and supplemented by targeted searching of guidance and grey literature. Records underwent screening and eligibility assessment. Included documents were extracted for document type, scope, setting, AI modality, and safeguards. Thematic synthesis derived governance requirements for AI enabled simulation.

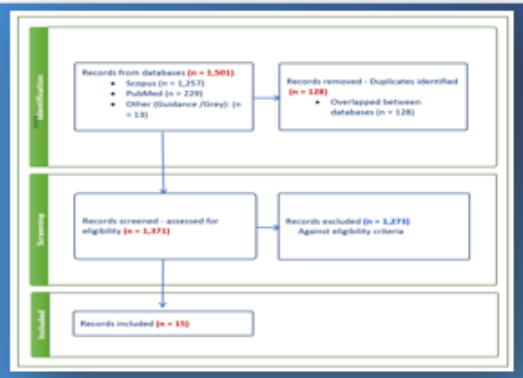

Figure 1: Search strategy flowchart

AI in simulation can improve education, but its safe adoption depends on oversight and transparency. Existing guidance can be translated into practical domains for responsible AI-enabled simulation.

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Results and discussion

Out of 1,501 identified records, 98 full texts were assessed after duplicate removal and screening, with 83 excluded and 15 included. Requirements clustered into governance, human oversight, transparency, bias and equity controls, data protection, risk management, quality assurance, assessment integrity, cybersecurity, and workforce capability building. A recurring gap was limited operational detail for higher risk use cases such as AI generated assessment items, AI supported debriefing analytics, and real time dynamic AI outputs to learners.

Conclusion

Current guidance supports AI innovation in simulation only within robust governance, transparent practice, and rigorous quality assurance. A minimum governance bundle should be adopted, with local policy prioritized for higher risk applications to protect learners, patients, and public trust.

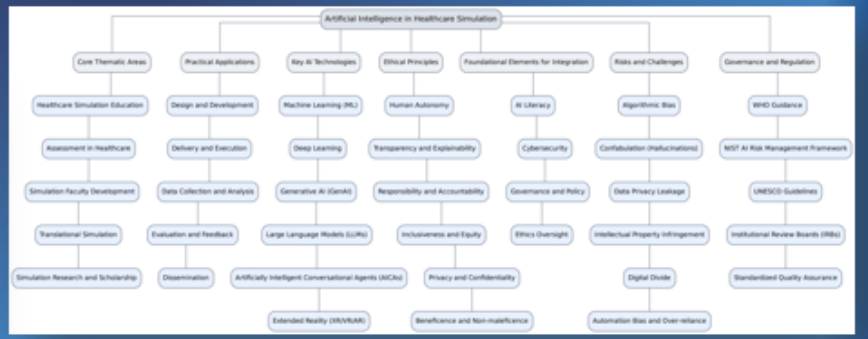

Figure 2: Thematic Synthesis

Mapping AI-Assisted Feedback Across Clinical Simulation Modalities in Medical Education: A Scoping Review Protocol

Sami Mohamed [1,2,3*]

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Background

Clinical simulation relies on timely, individualized feedback to help learners recognize performance gaps and improve actions. In practice, a misalignment exists between the need for tailored feedback and the capacity of educators to deliver it. Artificial intelligence tools support debriefing and feedback, generating guidance, highlighting strengths and weaknesses, and proposing next steps. Evidence remains dispersed with variable reporting of designs, outcomes and feasibility. Accordingly, this scoping review will map how AI-assisted feedback is used within AI supported simulation-based medical education

Methods

The review will follow Joanna Briggs Institute methodology for scoping reviews and be reported using PRISMA ScR. Eligible sources will include empirical studies in clinical simulation-based education where AI provides learner targeted information to support improvement, excluding studies using AI only for summative scoring. Searches will be conducted in MEDLINE via PubMed, ERIC, Scopus, and grey literature. Screening will be performed by two independent reviewers with disagreements resolved through discussion or a third reviewer. Data will be charted using a piloted extraction form capturing simulation modality, learner group, clinical domain, AI approach, feedback timing and format, personalization, outcomes, and implementation considerations.

AI-assisted feedback can support clinical simulation by improving timely, individualized feedback. Mapping how feedback design and AI approach are linked across clinical simulation modalities will clarify current use, and guide future implementation in medical education

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Protocol target

The planned synthesis will map records across simulated and standardized patient encounters, virtual patient platforms, high fidelity manikin scenarios, and procedural or technical skills simulation. AI approaches will include large language models, intelligent tutoring systems, performance analytics, and video-based methods. Feedback designs will be mapped by timing, content, and format, including immediate versus delayed and narrative versus structured feedback. Outcomes will be summarized across learning or performance, acceptance, and feasibility. Interpretation will draw on feedback theory, considering cognitive load and technology acceptance.

Conclusion

This scoping review will provide a structured map of records on AI-assisted feedback in clinical simulation-based medical education, identify gaps in outcome reporting, and highlight implementation in practice

References

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Silent Stranglers: Salmonellosis in a Crohn's Maze

Authors: Sandhya Tagaram MD FRCP [1], Sanjay Rau DO [2], Shashidhar Reddy Madireddy MD FAAFP [1]
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Case Presentation: 69 y/o with history of Crohn's disease on sulfasalazine, prior partial ileocecectomy presented with acute diarrhea and new findings of small bowel obstruction(SBO) on CT findings.

- S/P conservative management of acute salmonella enteritis 4 weeks ago.
- Physical exam was unrevealing except for hyperactive bowel sounds.
- Labs: leukocytosis (12kU/L) creatinine 4.16mg/dL, lactate 2.2mmol/L, bicarbonate 12mmol/L, potassium 3.0mmol/L, anion gap 17, sodium 134mmol/L .
- Met sepsis criteria –received iv fluids empiric antibiotics and blood /stool cultures drawn
- Surgery and Gastroenterology teams consulted.
- No surgical intervention recommended.
- Repeat CT – showed kink in distal small bowel upstream of ileocolonic anastomosis suggested adhesion (image 1) with patent ileocolonic anastomosis (image 2), consistent with mild partial or recently relieved obstruction and possible ischemia (image 3).
- On day 2- blood/stool cultures grew non typhoidal salmonella(NTS).
- Was given 2 weeks of ceftriaxone with interval improvement and discharged home.

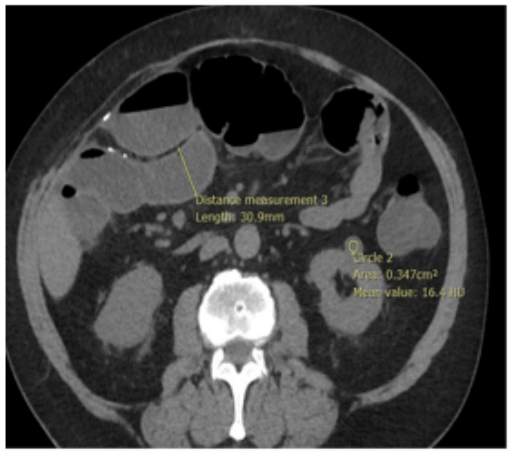

Image 1: Kink in the distal small bowel shortly upstream of an ileocolic anastomosis suggesting presence of an adhesion.

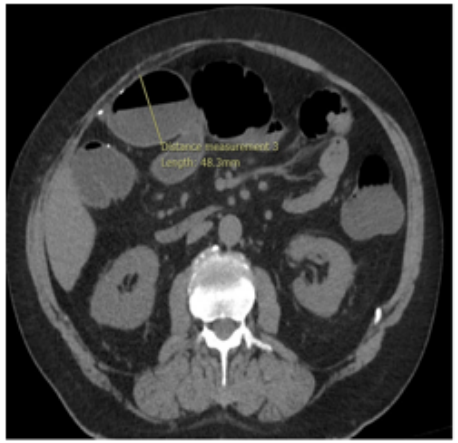

Image 2: short segment of distal ileum measures 48 mm in diameter leading into a widely patent ileocolic anastomosis

Image 3: Blind-ending part of the proximal colon shows pneumatosis

Discussion:

1.SBO accounts for 300k inpatient admission in USA(2).
2.Etiology : Post operative adhesions, small bowel malignancy, infections (Histoplasma/ yersinia/ salmonella).(2)
3. 5% NTS cases with risk factors(immunodeficiency, old age, diabetes, malignancy)present as invasive NTS-require antibiotics (1)
3.Salmonellosis resulting SBO is rare complication.
4.Crohn's disease make patients more susceptible for aggressive or persistent infection by Salmonella due to local inflammation and mucosal damage in intestine leading to bacterial transcytosis(4).
5.Definitive diagnosis of salmonella enteritis is through culture and biopsy.
-6.Salmonella enteritis is predominantly neutrophilic predominant compared to lymphocyte-plasmacyte with granulomatous infiltration in CD(5).
7.Mucosal homogenous thickening of ileal wall are characteristic us/ CT findings.(3)

Thorough history, prompt management and understanding risk factors improve outcomes.

Conclusion

1. Non typhoidal salmonella mimics Crohn's disease and is self limiting.
2.Disseminated presentation in immunocompromised patients need high suspicion, if untreated can cause high mortality.

References

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3. Hennedige,T,et al (2012)vol 198, issue 6 https://doi.org/10.2214
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A variable anion gap acidosis secondary to extreme occult ibuprofen abuse identified through the novel use of urine mass spectrometry

S. Camilleri (1), B. Ellison (3), N. Flynn (2) and A. P. Stewart (3)

1. Ipswich Hospital, East Suffolk and North Essex Foundation Trust, Ipswich, IP4 5PD. 2. Biochemical Genetics Unit, Cambridge University Hospitals NHS Foundation Trust, Cambridge, CB2 0QQ 3. Department of Nephrology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, CB2 0QQ

Case

A 25-year-old woman presented with a 9-month history of muscle weakness, diarrhoea, weight loss and peripheral oedema. She had eight intensive care unit (ICU) admissions for recurrent life threatening hypokalaemic metabolic acidosis, however no unifying diagnosis was found. Admission bloods as shown in Table 1 showed hypokalaemia and critical metabolic acidosis. The raised anion gap indicated suspicion of exogenous toxin use, however initial toxicology screen was negative, and a full unknown drugs of abuse screen was unremarkable.

Table 1 - Admission Bloods	
Sodium (mmol/L)	123 (133-146)
Potassium (mmol/L)	1.7 (3.5-5.3)
Creatinine (umol/L)	78 (44-97)
Calcium (mmol/L)	1.63 (2.08-2.65)
Albumin (g/L)	19 (35-50)
pH	7.145
Corrected anion gap	21.5

Although sodium and potassium corrected within 72 hours of ICU admission, bloods post-ICU step down showed a relapsed hypokalaemic acidosis and acute kidney injury. Further investigations revealed high urine pH >6.0. The anion gap fluctuated between elevated and normal throughout admission. The normal anion gap acidosis with inappropriately alkaline urine confirmed a renal tubular acidosis (RTA),but did not explain the variably raised anion gap.

Urine organic acid analysis via mass spectrometry was performed revealing extreme levels of the short half-life drug ibuprofen and its longer half-life metabolites hydroxyibuprofen and carboxyibuprofen. These were at a level dramatically exceeding normal dosing and rose during the admission (Figure 1)[1], despite not having been prescribed any ibuprofen whilst inpatient.

She was managed with potassium citrate, sodium bicarbonate and vitamin replacement. Although initially denying any medication use, she later admitted to ingesting more than 50 400mg ibuprofen tablets daily. She was further supported with input from psychiatric services.

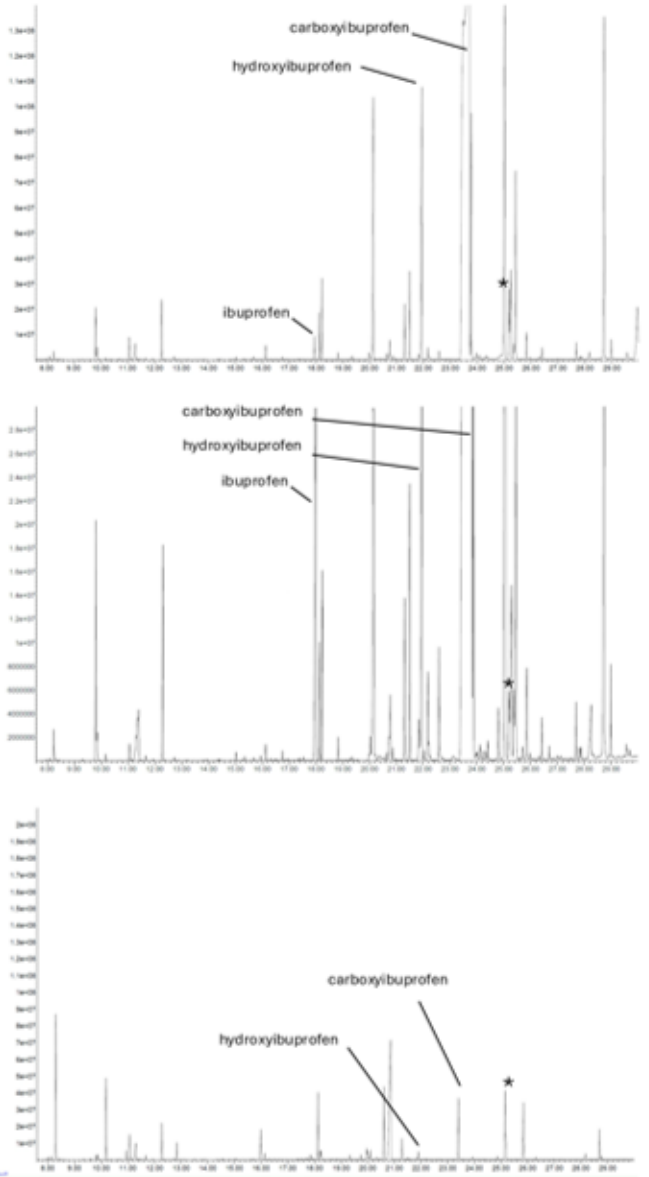

Figure 1 Urine organic acid chromatograms. Peak intensity normalised to the heptadecanoic acid internal standard (*) at around 25 minutes.
(A) Sample from patient on day 8 of admission.
(B) Sample from patient on day 10 of admission.
(C) Control sample from patient presumed to be taking normal therapeutic doses of ibuprofen, where no unmetabolized ibuprofen was detectable only the longer half-life metabolites.

Discussion

Non-steroidal anti-inflammatory drugs (NSAID) induced nephrotoxicity is commonly haemodynamically mediated by inducing vasodilation of the afferent arteriole, increasing risk of acute tubular necrosis[2]. Rarely, NSAIDs can be associated with acute interstitial nephritis. In this case ibuprofen toxicity was associated with a mixed proximal and distal RTA, likely mediated by inhibition of carbonic anhydrase activity[3]. Additionally extreme dosing of ibuprofen resulted in a variably raised anion gap due to the presence of large quantities of the anion carboxyibuprofen following occult ingestion of additional ibuprofen as an inpatient.

Urine organic acid analysis utilises organic solvents to extract compounds within the urine. Gas chromatography-mass spectrometry is then used to detect metabolites from diet, drugs or bacterial metabolism[1]. Although its primary use is investigating inherited metabolic disease, it has also been used to detect acquired disease such as pyroglutamatic aciduria, which is often due to chronic paracetamol use (reference). To the best of our knowledge, this is the first reported case of ibuprofen toxicity detected by urine organic acid analysis.

References

1. Kumps A, Duez P, Mardens Y. Metabolic, nutritional, iatrogenic, and artifactual sources of urinary organic acids: a comprehensive table. Clin Chem. 2002 May;48(5):708–17.
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3. Combs J, Andring J, Mckenna R. Ibuprofen: a weak inhibitor of carbonic anhydrase II. Acta Crystallogr F Struct Biol Commun. 2022;78:395–402. doi:10.1107/S2053230X22009761

Consent has been obtained from the patient for the sharing of this case report

Title :Ewing's Sarcoma Missed on Initial Radiographs Leading to Diagnostic Delay

Author: Suleman Akhter, JCF Pediatric Orthopedics, RMCH

Background

- Ewing's sarcoma is a rare, aggressive malignant bone tumor mainly affecting adolescents aged 10–20 years.
- Early recognition is vital because prognosis correlates with tumor size, stage, and metastatic status.
- Plain radiographs may appear normal in early disease

Case Presentation

- Male in early teens with non-traumatic left arm pain; initial radiographs normal.
- Symptoms persisted for 7 months despite physiotherapy.
- Progressed to severe night pain and restricted movement.
- Later imaging showed aggressive mixed lytic–sclerotic lesion with periosteal reaction.

Investigations

- MRI: Cortical destruction, periosteal elevation, soft-tissue extension.
- Biopsy: CD99+, EWSR1 rearrangement → Ewing's sarcoma.
- Staging: Localized disease

Treatment & Outcome

- Euro-Ewing 2012 protocol (VDC alternating with IE).
- Required opioid titration (Oxycodone up to 40 mg BD).
- Follow-up MRI showed good response with tumor necrosis.

Discussion

- 7-month delay due to reliance on normal radiographs.
- Lack of early senior review contributed.
- MRI is most sensitive for early detection.

Learning Points

- Persistent bone pain in children must be taken seriously.
- Normal X-rays do not exclude malignancy.
- Repeat imaging or MRI is essential if symptoms persist.
- Early referral to specialist services is critical.

References

- Gaspar N et al. J Clin Oncol. 2023
- Kaste SC et al. Radiographic. 2020
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Fig 1

Fig 2

THE IMPACT OF SOCIAL ISOLATION ON DEPRESSION AND ANXIETY AMONG ELDERLY ADULTS IN A CONFLICT-AFFECTED AREA OF OMDURMAN, SUDAN, MAY–SEPTEMBER 2025

Dr Suzan Eltahir | Internal Medicine, Sudan Medical Specialization Board | Khartoum, Sudan

INTRODUCTION

Social isolation among older adults is a global public health concern, strongly linked to poor psychological outcomes and diminished quality of life.

The armed conflict in Sudan since April 2023 has intensified this through:

- Widespread displacement of families
- Breakdown of family and community networks
- Older adults left isolated in unstable environments

AIMS & OBJECTIVES

This study aimed to:

- Assess the proportion of social isolation among older adults (≥65 yrs) in Omdurman, Sudan.
- Examine its association with anxiety and depression.

MATERIALS & METHODS

Design:
Cross-sectional study | May – September 2025

Setting:
Hay Al-Thawra, Omdurman, Khartoum State — purposively selected for accessibility and presence of conflict-affected elderly residents.

Sampling:
Multistage technique. Block 8 randomly selected. Adults ≥65 years recruited door-to-door (one per household).

Instrument:
Hospital Anxiety and Depression Scale (HADS) plus structured questionnaire.

Analysis:
Descriptive statistics, chi-square tests, and logistic regression.

KEY RESULTS

60% met criteria for social isolation

52.4% classified as anxious (HADS)

54.1% classified as depressed (HADS)

37.1% of participants were widowed

RESULTS & DISCUSSION

Sample characteristics:

- 50% aged 65–69 years | 54.1% male | 37.1% widowed

Mental health scores (HADS):

- Mean anxiety score: 10.54 (SD = 3.03)
- Mean depression score: 10.80 (SD = 2.90)
- >50% abnormal for both anxiety (52.4%) and depression (54.1%)

Association with social isolation:

- Anxiety: strong association ($\chi^2(2) = 18.707$, $p < 0.001$)
- Depression: borderline ($\chi^2(2) = 5.991$, $p = 0.050$)

Sociodemographic factor:

- Income was the only variable significantly correlated with social isolation ($p = 0.030$)

ETHICAL STATEMENT

Appropriate ethical permissions and patient consent were obtained prior to commencement of this study in accordance with institutional requirements.

CONCLUSIONS

Social isolation is highly prevalent (60%) among older adults in Omdurman, exacerbated by the ongoing conflict since April 2023.

Social isolation was closely linked to higher levels of both anxiety and depression, with anxiety showing the strongest association ($p < 0.001$).

Income was the only sociodemographic factor significantly associated with social isolation ($p = 0.030$).

These findings highlight the **urgent** need for:

- Targeted interventions to enhance social connectedness
- Strengthened community and health system support
- Addressing economic factors that drive isolation

PUBLIC HEALTH IMPLICATIONS

Policy makers and humanitarian organisations should prioritise mental health screening for elderly populations in conflict-affected areas.

Routine integration of HADS screening into health services for conflict-displaced older adults is strongly recommended.

REFERENCES

1. *Huang Y, et al. Lancet Psychiatry. 2019;6:211–224.*
2. *Cudjoe TKM, et al. J Gerontol B. 2020;75(1):107–113.*
3. *Zhang Y, et al. Arch Gerontol Geriatr. 2023;110:104980.*
4. *He ZF, et al. J Affect Disord. 2024;346:135–143.*

RCP Medicine 2026 | Abstract ID: 7161284 | 13–14 May 2026, London

Behind the Silence: A Dual-Cycle Quality Improvement Project to Standardise Pain Assessment in Non-Verbal Patients

George Eliot Hospital NHS Trust

Dr Sweatha Mani | Vinit Singh | Dr Rutbah Khairati

Supervisor - Dr Junaid Alamgir

BACKGROUND & RATIONALE

"If they cannot speak, does their pain not exist?"

Patients with dementia, delirium and frailty cannot self-report pain, yet it remains undertreated and undocumented, leading to agitation and prolonged admissions. **NICE NG97 · NICE CG50 · FPM** all mandate structured pain assessment in all patients

AIMS & METHODOLOGY

Standardise pain assessment in every non-verbal patient — every ward, every shift.

OBJECTIVES:

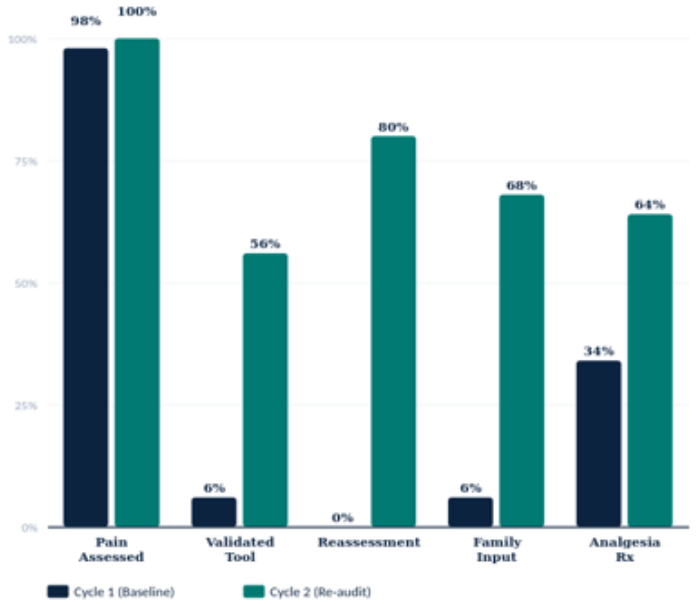
- | ↑ | Validated tool use **(ABBEY, PAINAD)**
- | ↑ | Reassessment after analgesia
- | ↑ | Family involvement & MDT Collaboration

THE JOURNEY

Baseline Audit → Interventions → Re-Audit

	Cycle 1	Cycle 2
When	Jul – Aug 2025	Oct – Nov 2025
Patients	**n = 50 Retrospective**	**n = 25 Prospective**

RESULTS



% Compliance by Domain — Cycle 1 vs Cycle 2

REFERENCES:

1. NICE NG97, NG193, CG50
2. Royal College of Nursing. Pain knowledge and skills framework. London: RCN; 2015.
3. British Geriatrics Society. Guidance on pain management in older people. London: BGS; 2019.
4. Faculty of Pain Medicine. Core standards for pain management services. London: FPM; 2021.

INTERVENTIONS

- **Ward Posters :** Pain tools at bedside
- **Teaching Sessions :** Nurses and doctors educated
- **Trust Newsletter :** Findings shared trust-wide
- **Desktop Awareness :** On every staff screen
- **PAINAD & Abbey Charts :** Introduced in geriatric wards
- **MDT Collaboration :** Pain in every discussion
- **Trust-Wide Presentation :** Results shared across trust

CONCLUSIONS & RECOMMENDATIONS

1. **Simple, low-cost interventions improved all 5 domains.**
2. **Abbey/PAINAD must be embedded into the EHR.**
3. **Sustain monthly MDT pain huddles trust-wide.**
4. **Family-involvement prompts at every admission.**
5. **This model is replicable — a blueprint for change.**

CONSENT: All data was collected with appropriate institutional approval. Consent obtained in accordance with QIP governance requirements.

Medical Thoracoscopy as the diagnostic turning point in cytology negative Myelomatous pleural effusion.

Basheer, Thahaseen[1]; Valsalan, Praveen[1]
[1]Aster Medcity , Kochi, India

INTRODUCTION

- Multiple Myeloma rarely presents with pleural effusion (<1%).
- Myelomatous Pleural Effusion is typically seen in advanced/relapsed disease.
- Initial presentation as pleural effusion is **exceptionally uncommon.**
- Most effusions in MM are **secondary causes**:
- Renal failure ,Infection, Heart failure Amyloidosis.
- Direct pleural infiltration indicates **aggressive extramedullary disease.**
- Diagnosis is challenging when **pleural cytology is negative.**

MATERIALS AND METHODS

- 56 years old lady with persistent backpain and dyspnea.
- Imaging: right-sided pleural effusion with vertebral compression fractures.
- Pleural fluid: exudative, hemorrhagic, lymphocyte-predominant.
- Low ADA; microbiology including MTB PCR negative
- Cytology: negative for malignancy.
- Due to diagnostic uncertainty, **thoracoscopy with pleural biopsy was performed.**

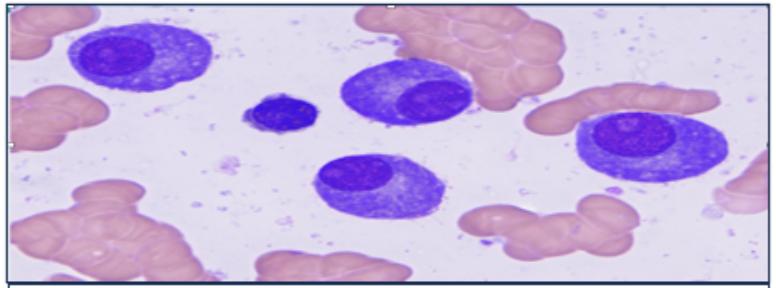


Figure 1. Pleural biopsy showing dense submesothelial plasma-cell infiltration, consistent with myelomatous pleural effusion.

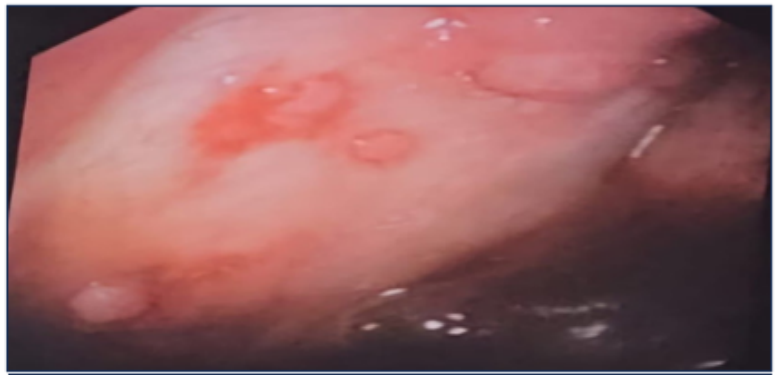


Figure 2. Medical thoracoscopy demonstrating abnormal pleura with nodularity and focal thickening.

References:
1.Riveiro V. *Rev Clin Esp* 2018,Gao L. *Technol Cancer Res Treat* 2022; 2.Arora P. *Indian J Hematol Blood Transfuse* 2016 ,3.Cavo M. *Lancet Oncol* 2017; 4.Wu YB. *BMC Pulm Med* 2017 Shrestha BK. *JNMA* 2020; 5.Zhang LL. *J Thorac Dis* 2014.

RESULTS AND DISCUSSION

KEY FINDINGS:

- Pleura: nodular, thickened ; Biopsy: plasma-cell infiltration
- Flow cytometry: CD38+, CD138+, CD56+, CD19– Lambda restriction
- Serum: IgG monoclonal gammopathy
- Abnormal light-chain ratio
- Bone marrow: ~90% plasmacytosis
- FDG PET-CT: Diffuse skeletal disease- No pleural mass.

DISCUSSION:

- MPE: unilateral, haemorrhagic, exudative
- Indicates **high tumour burden & poor prognosis**
- Cytology may be **false negative.**
- **Thoracoscopy + biopsy = diagnostic gold standard**
- Flow cytometry confirms **clonality**

CONCLUSION

- Consider Multiple Myeloma in **unexplained haemorrhagic pleural effusion.**
- **Negative cytology does not exclude malignancy**, particularly in Myelomatous Pleural Effusion.
- **Thoracoscopy with biopsy + flow cytometry** improves diagnostic yield and enables **early diagnosis.**

"Written informed consent was obtained from the patient for use of clinical data and images."

Myasthenic Crisis and Atypical Diabetic Ketoacidosis Precipitated by Sepsis in a Patient with Latent Tuberculosis: A Diagnostic and Therapeutic Dilemma

Sah, Ujwal; Shah, Saurav; Singh, Shivaditya; Yadav, Arun; Bhardwaj, Aaditya | Presenting at: Royal College of Physicians - Annual Conference, UK - 2026

INTRODUCTION

Background:
Myasthenia gravis (MG) can progress to crisis, often triggered by sepsis. Diabetic Keto-acidosis (DKA) may rarely present as a near-euglycemic state.

Aim:
This case reports a unique convergence of enteric sepsis induced myasthenic crisis and atypical DKA, with latent TB as a confounding factor.

CASE PRESENTATION

Patient: 77 M, Hypertensive, Type II Diabetic

Presentation: Left ptosis, diplopia (7 days, with diurnal variation)

Examination: Drooping of left eyelid, Curtain sign +

Dx: Ocular MG (AChR+), RNS-Normal, CT Chest- No thymoma

Rx: Steroids → improved

CLINICAL PROGRESSION

7 months later:
Dysarthria, dysphagia, chewing difficulty, drooling → ↓ facial/masticatory power
Workup:
MRI: Fazekas grade I changes;
Chest Xray: bilateral opacities
IGRA+: latent TB → ATT
Deterioration (1 week):
Loose stools, GCS 6/15, SpO_2-45% → intubated; High Anion gap Metabolic Acidosis with near-normal glucose → Cultures negative (SOFA >2), No active TB infection.

MANAGEMENT & DISCUSSION

Final Dx:
Myasthenic crisis + near-euglycemic DKA due to enteric sepsis (confounding latent TB)
Treatment:
IVIg, antibiotics, insulin + dextrose → full recovery
Discharge: Pyridostigmine + steroids
Discussion:
Infections trigger 30–50% of MG crises; atypical DKA is diagnostically challenging and under-recognized.

CONCLUSION

Key Message:
This case highlights the rare convergence of myasthenic crisis, atypical DKA, latent TB, and sepsis, emphasizing vigilant, multidisciplinary management.
Limitations:
Absence of microbiological isolation limits confirmation of exact sepsis etiology; SOFA rise >2 supported clinical diagnosis. Single fibre EMG was not performed.

CLINICAL IMAGING: Figure 1 (A,B)

A.

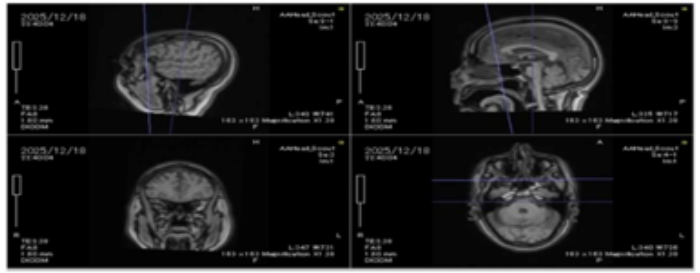


Figure 1(A,B): A: Chest Xray revealed fibrotic bands and architectural distortion predominantly affecting the right upper lobe, suggestive of post- tuberculosis lung fibrosis.

B: MRI brain (T1, T2/FLAIR) revealed ill defined hypertensities at bilateral periventricular deep white matter and corona-radiata suggestive of small vessel ischemic changes (Fazekas grade I)

KEY INVESTIGATIONS

Test	Result	Status
pH	↓ (Acidosis)	↑ Anion Gap
Glucose	238 mg/dl	Atypical DKA
Ketones	Positive	Ketoacidosis
Cultures	Negative	Blood/Stool
SOFA Score	Rise >2	Sepsis

REFERENCES

1. Gilhus NE,et al. Lancet Neurol. 2019;18(1):99- 112.

2. Juel VC, et al. Semin Neurol. 2004;24(1):75-81.

Informed consent was obtained for data use and presentation.

Improving Recognition and Management of Delirium in Elderly Patients Through Digital Integration of an Automated Agitated Delirium Pathway

East Lancashire Hospitals NHS Trust

Quality Improvement Project
U Waheed[1], W Fielding[1], S Javed[1], Y Ahmed[1], N Robert[1]
[1]East Lancashire Hospitals NHS Trust

Introduction

Delirium is common in older hospitalised patients and is associated with increased morbidity, mortality and prolonged length of stay. Baseline National Audit of Dementia (NAD) Round 5 data demonstrated variation in screening and documentation across departments, contributing to missed diagnoses.

During transition from paper documentation to Cerner electronic health records (EHR), the existing paper delirium bundle became obsolete, creating risk to patient safety.

Aim: To develop a digitally integrated, automated delirium pathway to standardise recognition, management and documentation.

Materials and methods

This quality improvement project utilised baseline audit data and iterative interventions with continuous monitoring.

Interventions:

SQiD embedded into electronic nursing admission assessment
Positive SQiD triggers automatic clinician task
Prompts medical review, 4AT and delirium bundle
Digital delirium bundle standardises assessment and management
4AT replaces CAM (aligned with national guidance)
Forget Me Not symbol replaces butterfly scheme

Implementation:

Multidisciplinary education (medical, surgical, orthogeriatrics)
Trust-wide rollout
Ongoing audit and National Audit of Dementia benchmarking

Figure 1. Improvement in delirium screening

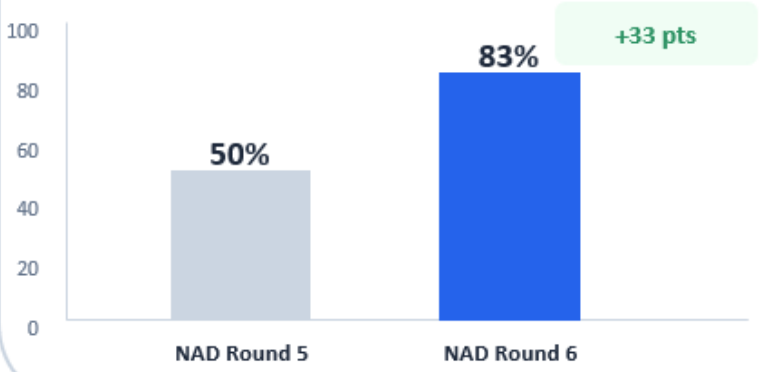
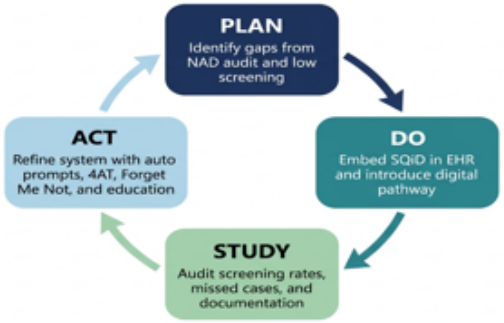


Figure 2. Digital delirium workflow



Results and discussion

Clinical Impact

Screening improved: **50% → 83%**
30% reduction in missed delirium diagnoses

Process Improvement

Increased 4AT completion
Improved delirium bundle activation
Reduced variation across wards

Patient & Carer Experience

77.6% improved communication
88.9% involvement in care decisions

Conclusion

Digital integration of an automated delirium pathway significantly improved screening, reduced missed diagnoses and enhanced carer involvement.

Embedding automated task generation within clinical workflow ensured sustainability, improved accountability and standardised care across the Trust.

References

1. Inouye SK, Westendorp RGJ, Saczynski JS. Delirium in elderly people. Lancet 2014;383:911-22.
2. National Institute for Health and Care Excellence. Delirium: prevention,

Consent statement

Service evaluation project. No identifiable patient data included. Governance processes followed.

A Preventable Tragedy: Transfusion-Associated Graft-Versus-Host Disease (TA-GVHD) in a Healthy Individual and the Urgent Need for Transfusion Safety Awareness

Salva Shariq, Syed Ahsan, Bibi Raheela, Sajida Parveen, Uzma Siddiqui

Aga Khan University Hospital, Karachi, Pakistan

BACKGROUND

- TA-GVHD is a rare but near-universally fatal transfusion complication (mortality 90–100%)
- Occurs when **donor lymphocytes attack host tissues**
- Typically affected organs: skin, liver, gut and bone marrow
- Can occur **even in healthy individuals**, especially:
  - related donor transfusion
  - partial HLA matching
- Prevention = **irradiation of blood products**

CLINICAL TIMELINE AND COURSE

Day 0 — Transfusion (Trigger Event)

Head trauma → 3 units PRBCs (non-irradiated)

One unit from related donor

Day 1-25 — Latent Phase

Patient remained asymptomatic

Day 25 — Symptom Onset

- Fever
- Diffuse erythematous rash
- Progressive jaundice
- Vomiting, epigastric discomfort

Day 30 — Hospital Admission

- Febrile (39.2°C) hypotensive
- Macular rash with periorbital involvement
- Hepato-splenomegaly

Day 31-32 — Rapid Progression

- Erythroderma
- Mucosal ulceration
- Worsening cytopenias
- HLH suspected
- Skin biopsy performed

Day 33-34 — Bone marrow biopsy performed

(results pending at the time)

Day 35-36 — Clinical deterioration

- Septic shock
- Klebsiella bacteremia
- Fungal markers positive

Day 37 — Outcome

- Despite prompt treatment with cortico-steroids and antibiotics, the patient went into multiorgan failure
- Death

PATIENT PROFILE

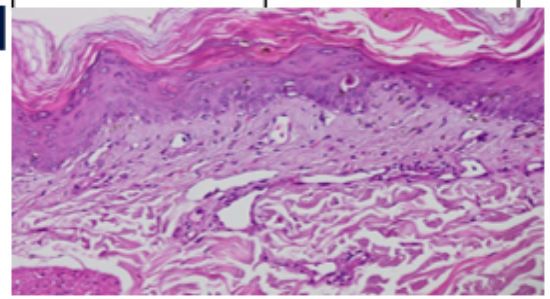
- **51-year-old male**
- **Previously healthy**
- Presented after recent hospitalization for head trauma sustained during a road traffic accident

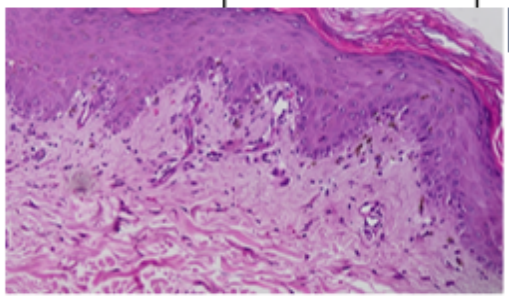
Diffuse erythematous rash

KEY INVESTIGATIONS

- **Leukopenia** (2.1×10⁹/L)
- **Transaminitis**
- **Hyperbilirubinemia**
- **Elevated C-reactive protein** (198 mg/L)
- **Hyper-ferritinemia** (29,945 ng/mL)
- **Hypertriglyceridemia** (426 mg/dL)
- Viral serologies: negative

STRONG SUSPICION OF SECONDARY HLH INITIALLY (H-score 219; 93.96% probability) **increased diagnostic uncertainty**





Skin biopsy revealed interface dermatitis with basal vacuolar damage and numerous necrotic keratinocytes involving the epidermis and follicular epithelium, in the absence of eosinophils

DISCUSSION: TA-GVHD can occur in **immunocompetent patients**
Mimics HLH → diagnostic confusion

KEY MESSAGE

- Irradiation of blood products is essential
- Special caution with **related donors**
- Adherence to transfusion protocols

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Royal College of Physicians, Medicine 2026 Conference

SLE presenting with Unilateral Loculated Pleural Effusion in a Young Hypertensive female : A Rare Case Report

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NEPAL MANIPAL COLLEGE of MEDICAL SCIENCES

INTRODUCTION

- Systemic lupus erythematosus (SLE) is a chronic, autoimmune disease of unknown etiology with multiple systemic manifestations
- Unilateral pleural effusion, though rare can be the initial presenting feature of a patient. SLE with renal involvement, Lupus Nephritis can be the cause for hypertension in young patients.
- Here we report an unusual presentation of unilateral loculated pleural effusion and undiagnosed lupus nephritis underscores the subtle presentation.

CASE PRESENTATION

28-years-old female

Cough with whitish sputum for 15 days

Acute-onset shortness of breath for 3 days

Fever associated with chills and rigors for 1 day

PAST HISTORY

Hypertension for 4 years under medication- Amlodipine(2.5 mg OD)

CLINICAL EXAMINATION

Anxious, ill-looking, dyspneic
Temperature: 101°F
Pulse: 106 bpm , regular
Respiratory Rate: 24 breathes/min
Blood pressure: 160/90 mmHg
SpO_2: 94% on room air
Respiratory findings:

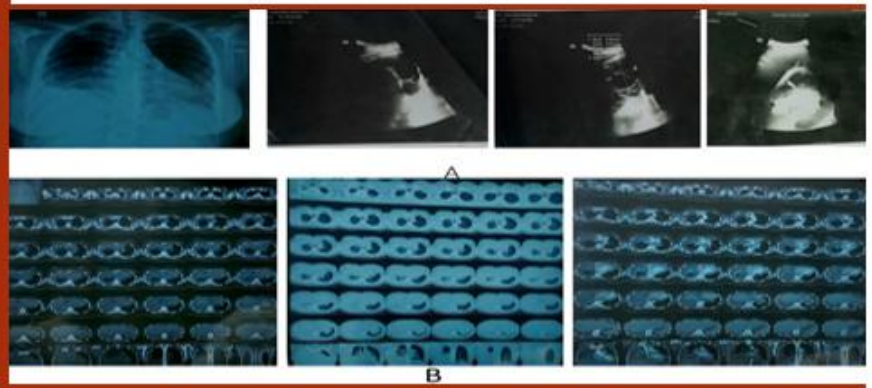
- Decreased chest movement (right side)
- Reduced tactile fremitus
- Stony dull on percussion
- Inspiratory coarse crackles over right axillary and infrascapular areas)

LABORATORY FINDINGS

- Microcytic hypochromic anemia (Hb 8.7 g/dL, MCV 66 fL)
- Elevated CRP(92 mg/dl); ESR(80 mm/hr)
- Mantoux and Sputum Gene Xpert – Negative
- Creatinine 0.8mg/dl; Urine RME protein – Nil RBC- Nil
- 24 hour urinary protein- 900mg/day; C_3, C_4 - low

IMAGING STUDIES

- **Chest X-ray:** Right costophrenic angle blunting with meniscus sign
- **USG chest, A & P:** Complex septated right pleural effusion
- **CECT chest:**
  - Gross right pleural effusion
  - Passive lung collapse
  - Mediastinal shift to left (Figure 1)

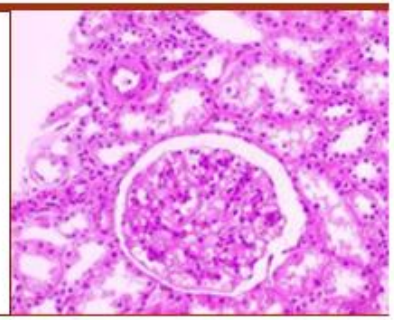


PROCEDURES AND FLUID ANALYSIS

- Pigtail catheter drainage with streptokinase fibrinolysis
- Pleural fluid: Exudative effusion (Light's criteria)

AUTOIMMUNE EVALUATION

- History: Skin rash, arthralgia, hair loss; dry eye; fatiguibility, unexplained anemia(2 years); ANA(IFA) and ENA panel: Confirmed **Systemic Lupus Erythematosus (SLE)**
- **Renal biopsy:**
  Membranous lupus nephritis: Class V and Focal lupus nephritis: Class III



DISCUSSION

- Pleural effusion tends to occur more frequently with advancing age. In contrast, our patient developed pleural effusion at a young age.
- SLE-related effusions are typically bilateral and mild to moderate however, this patient presented with a unilateral, moderate-to-severe, and loculated effusion, an uncommon finding[2]
- Long-standing hypertension prompted evaluation for secondary causes, and renal biopsy established lupus nephritis. Immune complex mediated glomerular injury likely contributed to hypertension via renin–angiotensin–aldosterone system activation3

MANAGEMENT

- Ophthalmology consultation done.
- Hydroxychloroquine, Mycophenolate mofetil, ARB continued, prednisolone tapered
- Significant radiological improvement at 3weeks
- No relapse on follow-up

CONCLUSION

Unusual Effusion Pattern
Unilateral, moderate-to-severe, and loculated effusion
Contrasts with typical bilateral, mild SLE effusions

Written informed consent was obtained from the patient for publication of this poster and any images.

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