

Blackpool  
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# Staff Publications

SEPTEMBER

2020

## INSIDE THIS ISSUE:

Articles published  
by members of  
staff from  
Blackpool  
Teaching  
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Foundation Trust  
and indexed  
between  
April—August  
2020

[Prospective validation of the RAPID clinical risk prediction score in adult patients with pleural infection: the PL-LOT study](#)

**Saba-T** et al

Eur Respir J. 2020 Jul 16

Background: Over 30% of adult patients with pleural infection either die and/or require surgery. There is no robust means of predicting at baseline presentation which patients will suffer a poor clinical outcome. A validated risk prediction score would allow early identification of high-risk patients, potentially directing more aggressive treatment thereafter.

Objectives: To prospectively assess a previously described risk score (RAPID - Renal (urea), Age, fluid Purulence, Infection source, Dietary (albumin)) in adults with pleural infection.

[An evaluation of continuous subcutaneous infusions across seven NHS acute hospitals: is there potential for 48-hour infusions?](#)

Baker J, Dickman A, Mason S, Bickerstaff M, Jackson R, McArdle A, Lawrence I, Stephenson F, Paton N, Kirk J, **Waters B**, Ellershaw J.

BMC Palliat Care. 2020 Jul 7;19(1):99.

Background: Continuous subcutaneous infusions (CSCIs) are commonly used in the United Kingdom as a way of administering medication to patients requiring symptom control when the oral route is compromised. These infusions are typically administered over 24 h due to cur-

rently available safety data. The ability to deliver prescribed medication by CSCI over 48 h may have numerous benefits in both patient care and health service resource utilisation. This service evaluation aims to identify the frequency at which CSCI prescriptions are altered at NHS Acute Hospitals.

Methods: Pharmacists or members of palliative care teams at seven acute NHS hospitals recorded anonymised prescription data relating to the drug combination(s), doses, diluent and compatibility of CSCIs containing two or more drugs on a daily basis for a minimum of 2 days, to a maximum of 7 days.

[Long-term outcomes after transcatheter aortic valve implantation in failed bioprosthetic valves](#)

**Roberts-David** et al

Eur Heart J. 2020 Aug 1;41(29):2731-2742.

Due to bioprosthetic valve degeneration, aortic valve-in-valve (ViV) procedures are increasingly performed. There are no data on long-term outcomes after aortic ViV. Our aim was to perform a large-scale assessment of long-term survival and reintervention after aortic ViV.



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[Rapid systematic review of neonatal COVID-19 including a case of presumed vertical transmission.](#)

**Gordon M, Kagalwala T, Rezk K, Rawlingson C, Ahmed MI, Guleri A.**

BMJ Paediatr Open. 2020 May 25;4(1).

Objective: To carry out a systematic review of the available studies on COVID-19 (coronavirus disease 2019) in neonates seen globally since the onset of the COVID-19 global pandemic in 2020. The paper also describes a premature baby with reverse transcription (RT)-PCR-positive COVID-19 seen at the Blackpool Teaching Hospitals NHS Foundation Trust, UK.

Conclusions: Neonatal infection is uncommon, with only two previously reported cases likely to be of vertical transmission. The case we report is still RT-PCR-positive on day 28 and is asymptomatic. Ongoing research is needed to ascertain the epidemiology of COVID-19 in neonates.

[Microbial Resistance in Urinary Tract Infections.](#)

Malik J, Javed N, **Malik F**, Ishaq U, Ahmed Z.

Cureus. 2020 May 14;12(5).

Objective To determine the pattern of microbes responsible for urinary tract infections and their susceptibility to antimicrobial agents. Methods This was a prospective, observational study con-

ducted at Benazir Bhutto Hospital, Rawalpindi, Pakistan. The urine samples of 440 patients were collected and sent for culture and sensitivity analysis. The results were recorded on a proforma. The data were analyzed using IBM Statistical Package for Social Sciences (SPSS) version 22 (IBM Corp., Armonk, NY). Descriptive statistics were used to describe the data. Chi-square test was applied to determine the significance of the difference between gender and microorganisms as well as microorganism and antimicrobial sensitivity. P-value of less than 0.05 was considered significant. Results Out of 440 urine samples, 144 culture-positive samples had been obtained from male participants and 296 culture-positive samples had been obtained from female participants. The most common organism on analysis was Escherichia coli. There were more rates of resistance in males. The organisms were most susceptible to



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fosfomycin and imipenem ( $p = 0.01$ ). The organisms were resistant to ceftazidime ( $p = 0.01$ ). Conclusion: In Pakistan, most patients with resistance present with mild symptoms instead of severe clinical manifestations. Therefore, there is a need to reduce the over-prescription of antibiotics for urinary tract infections, especially in cases when other non-antimicrobial agents can be used.

[Switching patients with inflammatory arthritis from Etanercept \(Enbrel®\) to the biosimilar drug, SB4 \(Benepali®\): A single-centre retrospective observational study in the UK and a review of the literature.](#)

**Madenidou AV, Jeffries A, Varughese S, Jones S, Sari-Kouzel H, Veevers H, Rao C.**

*Mediterr J Rheumatol.* 2019 May 31;30 (Suppl 1):69-75.

Objective/aim: SB4 (Benepali®), the Etanercept biosimilar, is licenced in the UK for the same indications as the reference product, Enbrel®. In 2016, the Rheumatology Department at Blackpool Teaching Hospitals switched the Etanercept patients, who gave consent, to SB4. A proportion of these patients switched back to Etanercept and therefore we aimed to investigate the reasons of SB4 withdrawal and compare our results with the current evidence.

Conclusion: The majority (73.6%) stayed on SB4, which is consistent with

the current evidence. Taking also into consideration the results of the other studies, it is unclear if this withdrawal is a true failure on SB4, placebo effect or spontaneous disease flare.

[Identification of high-risk non-ST elevation myocardial infarction at presentation to emergency department. A prospective observational cohort study in North West England.](#)

Khand A, Frost F, Grainger R, Fisher M, Chew P, Mullen L, **Patel B**, Obeidat M, Albouaini K, Dodd J.

*BMJ Open.* 2020 Jun 8;10(6).

Objectives: Early access to invasive coronary angiography and revascularisation for high-risk non-ST elevation myocardial infarction (NSTEMI) improves outcomes and is supported by current guidelines. We sought to determine the most effective criteria at presentation to emergency department (ED) to identify high-risk NSTEMI.

Conclusions: hs-cTnT >50 ng/L or HEART score  $\geq 7$  appear effective strategies to identify high-risk NSTEMI at presentation to emergency room with chest pain. Multicentre prospective studies enriched with early presenters, and with competitor high-sensitive and point-of-care troponins, are required to validate and extend these findings.

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[Outcome domains and outcome measures used in studies assessing the effectiveness of interventions to manage non-respiratory sleep disturbances in children with neurodisabilities: a systematic review.](#)

McDaid C, Parker A, Scantlebury A, Fairhurst C, Dawson V, Elphick H, Hewitt C, Spiers G, **Thomas M**, Beresford B.

BMJ Open . 2019 Jun 19;9(6).

[An unusual response of pulmonary vein bigeminy to antral ablation.](#)

Katsaras D, Ariyaratnam J, Chalil S, Abozguia K.

J Interv Card Electrophysiol. 2020 Jun 3.  
CASE REPORT.

[Systemic sclerosis-related calcinosis can affect the breast - but malignancy should always be excluded.](#)

Tang EY, **Varughese S**, Herrick AL.  
Scand J Rheumatol. 2020 May 27:1-2.

[Atypical presentation of Addison's disease.](#)

**Malik F**, Khaing TT, **Shah F**.  
Clin Med (Lond). 2020 Mar;20(Suppl 2):s39.

Hyponatraemia is a relatively common electrolyte problem encountered in hospitalised patients and it carries significant morbidity and mortality. It is challenging to spot the exact cause of hyponatraemia especially when it is associated with multiple comorbidities, such as hypothyroidism, obesity and lymphoedema. We present a case of hyponatraemia in a patient with known hypothyroidism and lymphoedema. Initially the patient was fluid restricted, considering hypervolemic hyponatraemia due to lymphoedema and hypothyroidism, but following a continued drop in sodium levels, the diagnosis was reconsidered. Thorough examination showed hyperpigmentation which directed the measurement of cortisol levels. That resulted in a diagnosis of Addison's disease and rapid recovery of the patient occurred after steroid replacement.

[Point-of-care ultrasound in respiratory and critical care: consolidation and expansion of imaging skills.](#)

Smith MJ, **Hayward SA**, Innes SM.  
Anaesthesia. 2020 May 12.

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[Case-based discussion: a case of misdiagnosis of primary lung malignancy.](#)

Wang R, Lightburn T, Howells J, Tahan I, **Bittar M**, **Patnaik L**, Tooze R, Mehdi SB.

Thorax. 2019 Oct;74(10):1003-1005.

[COVID-19 Pandemic and Cardiac Electrophysiology: Guidance Protocol From a UK Tertiary Cardiac Centre.](#)

**Katsaras D, Chalil S, Abozguia K.**

Crit Pathw Cardiol. 2020 Apr 24.

Abstract: Since December 2019, the coronavirus disease-2019 (COVID-19) pandemic has resulted in more than 2,160,000 positive cases and more than 145,000 deaths until April 18, 2020. The pressure to the health services worldwide has been unprecedented. The re-deployment of staff and resources to treat more efficiently COVID-19 cases along with the need to reduce disease transmission has affected the field of electrophysiology among many others. Amendments to clinical pathways are obligatory in this perspective to continue to provide the necessary health services to the people who need them, although at the same time, infection control and prevention are not compromised by inadvertent disease transmission or unnecessary use of resources. We aim to provide a guide of the logistic aspects of electrophysiology procedures derived from our tertiary cardiac center during the current COVID-19 pandemic.

[Establishing spectrochemical changes in the natural history of oesophageal adenocarcinoma from tissue Raman mapping analysis.](#)

Maitra I, Morais CLM, Lima KMG, Ashton KM, **Bury D**, Date RS, Martin FL.

Anal Bioanal Chem. 2020 Apr 25.

Abstract: Raman spectroscopy is a fast and sensitive technique able to identify molecular changes in biological specimens. Herein, we report on three cases where Raman microspectroscopy was used to distinguish normal vs. oesophageal adenocarcinoma (OAC) (case 1) and Barrett's oesophagus vs. OAC (cases 2 and 3) in a non-destructive and highly accurate fashion. Normal and OAC tissues were discriminated using principal component analysis plus linear discriminant analysis (PCA-LDA) with 97% accuracy (94% sensitivity and 100% specificity) (case 1); Barrett's oesophagus vs. OAC tissues were discriminated with accuracies ranging from 98 to 100% (97-100% sensitivity and 100% specificity). Spectral markers responsible for class differentiation were obtained through the difference-between-mean spectrum for each group and the PCA loadings, where C-O-C skeletal mode in  $\beta$ -glucose (900 cm<sup>-1</sup>), lipids (967 cm<sup>-1</sup>), phosphodioxo (1296 cm<sup>-1</sup>), deoxyribose (1456 cm<sup>-1</sup>) and collagen

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(1445, 1665 cm<sup>-1</sup>) were associated with normal and OAC tissue differences. Phenylalanine (1003 cm<sup>-1</sup>), proline/collagen (1066, 1445 cm<sup>-1</sup>), phospholipids (1130 cm<sup>-1</sup>), CH<sub>2</sub> angular deformation (1295 cm<sup>-1</sup>), disaccharides (1462 cm<sup>-1</sup>) and proteins (amide I, 1672/5 cm<sup>-1</sup>) were associated with Barrett's oesophagus and OAC tissue differences. These findings show the potential of using Raman microspectroscopy imaging for fast and accurate diagnoses of oesophageal pathologies and establishing subtle molecular changes predisposing to adenocarcinoma in a clinical setting. Graphical abstract Graphical abstract demonstrating how oesophageal tissue is processed through Raman mapping analysis in order to detect spectral differences between stages of oesophageal transformation to adenocarcinoma.

[Point-of-care lung ultrasound in patients with COVID-19 - a narrative review.](#)

Smith MJ, **Hayward SA**, Innes SM, Miller ASC.

Anaesthesia. 2020 Apr 10.

Abstract: Ultrasound imaging of the lung and associated tissues may play an important role in the management of patients with COVID-19-associated lung injury. Compared with other monitoring modalities, such as auscultation or radi-

ographic imaging, we argue lung ultrasound has high diagnostic accuracy, is ergonomically favourable and has fewer infection control implications. By informing the initiation, escalation, titration and weaning of respiratory support, lung ultrasound can be integrated into COVID-19 care pathways for patients with respiratory failure. Given the unprecedented pressure on healthcare services currently, supporting and educating clinicians is a key enabler of the wider implementation of lung ultrasound. This narrative review provides a summary of evidence and clinical guidance for the use and interpretation of lung ultrasound for patients with moderate, severe and critical COVID-19-associated lung injury. Mechanisms by which the potential lung ultrasound workforce can be deployed are explored, including a pragmatic approach to training, governance, imaging, interpretation of images and implementation of lung ultrasound into routine clinical practice.



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[A direct comparison of decision rules for early discharge of suspected acute coronary syndromes in the era of high sensitivity troponin.](#)

Chew PG, Frost F, Mullen L, Fisher M, Zadeh H, Grainger R, Albouaini K, Dodd J, **Patel B**, Velavan P,

Kunadian B, Rawat A, Obafemi T, Tong S, Jones J, Khand A.

Eur Heart J Acute Cardiovasc Care. 2019 Aug;8(5):421-431.

We tested the hypothesis that a single high sensitivity troponin at limits of detection (LOD HSTnT) (<5 ng/l) combined with a presentation non-ischaeamic electrocardiogram is superior to low-risk Global Registry of Acute Coronary Events (GRACE) (<75), Thrombolysis in Myocardial Infarction (TIMI) (≤1) and History, ECG, Age, Risk factors and Troponin (HEART) score (≤3) as an

aid to early, safe discharge for suspected acute coronary syndrome.

[Developments in medical education in response to the COVID-19 pandemic: A rapid BEME systematic review](#)

**Morris Gordon**, Madalena Patriocio, **Laura Horne**, **Alexandra Muston**, Sebastian R Alston, Mohan Pammi, Satid Thammasitboon, Sophie Park, Teresa Pawlikowska, Eliot L Rees, Andrea Jane Doyle & Michelle Daniel

Medical Teacher, 2020.

The novel coronavirus disease (COVID-19) was declared a pandemic in March 2020. This rapid systematic review synthesised published reports of medical educational developments in response to the pandemic, considering descriptions of interventions, evaluation data and lessons learned.

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[Long-term survival after endoscopic vein harvest for coronary artery bypass grafting.](#)

**Kirmani BH, Power S, Zacharias J.**

Ann R Coll Surg Engl. 2020 Apr 24:1-7.

Endoscopic vein harvest is the technique of choice in North America, where it constitutes 80% of conduit harvest for coronary artery bypass grafting. The UK has much lower rates, despite demonstrable perioperative benefits. Concerns about patency and long-term survival are often cited as reasons for poor uptake and evidence in the literature thus far has only addressed mid-term outcomes. We sought to identify the long-term survival of patients undergoing endoscopic vein harvest compared with a contemporaneous cohort of open vein harvest.

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