Abstract 16 Figure 2 CT appearances: no evidence of soft tissue abnormality. There is a small focus of increased activity (SUV-max 7) around the pacemaker leads as they pass from the left brachiocephalic vein into the superior vena cava. Increased activity in the right antecubital fossa correlates to some tissuing at the injection site

markers, syphilis serology, and hepatitis screen were negative. Two out of six blood cultures (on separate admissions) done grew *Enterobacter cloacae*. Repeated CXRs, CT scans and Echocardiograms showed no evidence of collection/infection. A FDG-PET scan was carried out which detected a focus point of increased activity around the pacemaker leads.

Results *Enterobacter cloacae* is a nosocomial, gram-negative, facultatively anaerobic, rod-shaped bacterium from the Enterobacteriaceae family. It is usually found in the gut normal flora and skin of humans. It can colonise surgical equipment, operative cleaning solutions and heparin solution used to irrigate certain intravascular devices.² The surgical equipment used in this patient's pacemaker battery change may have been colonised with the bacteria which could explain why it was present in the blood cultures. Another explanation would be that it was a skin commensal for the patient. However, to our knowledge, no other cases from the hospitals involved have been identified or reported recently. Unfortunately, when the pacemaker was removed in our patient, the pacemaker leads were not sent for culture and were discarded. The type of

PET scan used in this case was the FDG- PET. Hybrid F18-FDG-PET/CT has high sensitivity and relative non-specificity for malignancy, infection and inflammation.^{3 4} The subsequent removal of the pacemaker led to the improvement and resolution of symptoms.

Conclusions This case has highlighted the importance to explore previous hospital admissions, building a timeline of events, which could be leading to the patients' current presentation. Moreover, patients presenting with pyrexia after a recent prosthetic implantation should be investigated for prosthesis-led-infections, despite negative investigation results. Therefore, the approach to investigate and treat known source of infections and pyrexia of unknown origin needs to be done systematically according to set hospital protocols and evidence-based medicine.

REFERENCES

1. Petersdorf RG, Beeson PB. Fever of unexplained origin: report on 100 cases. *Medicine (Baltimore)* 1961;**40**:1–30.
2. Mezzatesta ML, Gona F, Stefani S. Enterobacter cloacae complex: clinical impact and emerging antibiotic resistance. *Future Microbiol* 2012 July;**7**(7):887–902.
3. Hao R, Yuan L, Kan Y, et al. Diagnostic performance of 18F-FDG PET/CT in patients with fever of unknown origin: a meta-analysis. *Nucl Med Commun* 2013;**34**(7):682–8.
4. Balink H, Verberne HJ, Binnink RJ, et al. A rationale for the use of F18-FDG PET/CT in fever and inflammation of unknown origin. *Int J Mol Imaging* 2012;**2012**:165080. doi:10.1155/2012/165080

17

ESTABLISHING A PHYSIOLOGICALLY RELEVANT *IN VITRO* MODEL FOR ISCHAEMIC STROKE INJURY IN BRAIN ENDOTHELIAL CELLS

Gabriela Warpsinski, Salil Srivastava, Thomas P Keeley, Paul Fraser, Giovanni E Mann. King's College London

10.1136/postgradmedj-2018-fpm.28

Introduction Ischaemic stroke is a major contributor to adult disability in developed countries. However, the only clinically approved acute treatment is delivery of the thrombolytic agent, alteplase, that has a narrow window of 6 hour post-stroke. To better screen treatments for ischaemic stroke, a more relevant *in vitro* model for ischaemic stroke is needed. Numerous studies have demonstrated that brain microvascular endothelial cells experience an O₂ environment ranging from 4–7 kPa, on the contrary most cell culture studies are conducted under ambient O₂ levels, 18 kPa that inevitably expose cells to hyperoxia. To better understand the consequences of O₂ levels, mouse brain endothelial cell line, bEnd.3, was cultured long-term under 18 kPa or 5 kPa O₂ levels, and cell sensitivity to *in vitro* model of ischaemic stroke was assessed.

Methods bEnd.3 cells were cultured long term (5 days) under 18 kPa or 5 kPa O₂ levels and subjected to oxygen-glucose deprivation (OGD) for 2–12 hour. Cell viability was then assessed using ethidium bromide staining. Intracellular O₂ content was also measured using an O₂ sensitive nanoparticle probe, MitoXpress-Intra (2.5 µg/ml), in an O₂-regulated plate reader from BMG Labtech. Statistical analysis was performed using student's t-test or two-way analysis of variance (ANOVA) followed by Bonferroni Post Hoc test.

Results In the present study, the bEnd.3 cell phenotype was determined following long-term (5 days) culture under 18 kPa or 5 kPa O₂. Under 5 kPa O₂, the intracellular O₂ content of bEnd.3 cells was approximately 3.6 kPa O₂ (n=3) and this

finding is in agreement with other studies that have reported *in vivo* O₂ content of the microvasculature. bEnd.3 cells cultured under 5 kPa also exhibited lower intracellular glutathione content compared to cells cultured under 18 kPa O₂ (20.6 vs 29.9 mmol/mg protein, $n=4$, $p=0.003$). Furthermore, bEnd.3 cells cultured under 5 kPa O₂ exhibited greater sensitivity to OGD-induced cell death, with increased ratio of dead to live cells seen under 2 hour OGD (0.42 vs 0.05, $n=3$, $p=0.0002$).

Conclusions The majority of cell culture studies have conducted experiments under hyperoxia. The present study highlights the importance of conducting cell culture studies under physiological O₂ levels, as demonstrated by the different phenotype resulted from long-term culture under physiological O₂ levels.

This work was supported by Grant (FS/13/66/30445) from the British Heart Foundation. The authors declare no conflicts of interest.

18

AN ASSESSMENT OF THE SMOKING CESSATION POLICY IN AN NHS TRUST

¹Sachin Ananth, ¹Felicite Mukeshimana, ¹Sanjida Rahman, ²Nicola Whiteley, ²Louisa Pierce, ²Raymond Anakwe. ¹Imperial College School of Medicine; ²Imperial College Healthcare NHS Trust

10.1136/postgradmedj-2018-fpm.29

Introduction Smoking is the second biggest risk factor for premature death in the UK, and it is a significant risk factor for many chronic illnesses. Approximately 25% of secondary care patients smoke, and so treating tobacco dependence would create an opportunity to improve the health of these patients. Referral to stop smoking services is the optimum way to induce smoking cessation- smokers who are referred to these services are four times more likely to quit. NICE guidelines set out the standard of smoking cessation support in secondary care. This audit aimed to assess the compliance of an NHS Trust's smoking cessation policy with these NICE guidelines.

Subjects and methods The NICE baseline assessment tool was used to assess the compliance of the Trust's smoking cessation policy with the NICE guidelines. To evaluate the implementation of the Trust's policy in clinical practice, snapshot audits of the medical notes of current inpatients and outpatients were undertaken. Medical notes were collected from at least 2 medical specialties and 2 surgical specialties. The notes were assessed for documented smoking status in all patients, and offer of nicotine-replacement therapy (NRT) and referral to a stop smoking service in current smokers.

Results The Trust's smoking cessation policy was partially compliant with the NICE guidelines; significant gaps in the Trust's policy included smoking cessation in outpatients and the training of all staff to deliver stop smoking advice. 14/27 (51.9%) of outpatients and 54/80 (67.5%) of inpatients had smoking status documented in their notes. Documentation varied widely across the different specialties, ranging from 0% of Neurology and ENT outpatients, to 100% of Respiratory inpatients. 7/19 (36.8%) of current smokers had a documented offer of NRT, while 4/19 (21.1%) of current smokers had a documented offer of referral to a stop smoking service. Of

the 3 current smokers in the Respiratory ward, none were offered NRT and 1 was offered a referral to a stop smoking service.

Conclusions While the Trust's smoking cessation policy partially complied with the NICE guidelines, implementation of the Trust policy was insufficient. There were low rates of smoking status documentation in many specialties, and so healthcare staff should be encouraged to ask about smoking status, even if it may not seem relevant to the patient's presenting complaint. Few smokers were offered referral to stop smoking services. Greater awareness of these services is needed, so that smokers receive appropriate smoking cessation support, ensuring that opportunities to improve the health of the nation are not missed.

19

THE BENEFITS OF AN INTEGRATED EYE CLINIC LIAISON OFFICER IN IMPROVING PATIENT OUTCOMES IN OPHTHALMOLOGY

Jennifer Bacon, Hayley Coates, Nitin Gupta. West Suffolk NHS Foundation Trust, UK

10.1136/postgradmedj-2018-fpm.30

Introduction The loss of sight can have a profound impact on a patient's independence and well-being. Giving patients the devastating news that they are losing their sight is very challenging and when receiving information, a patient often requires considerable support and time. Eye Clinic Liaison officers (ECLOs) are essential in providing patients, their families, and carers with practical and emotional support to help understand their diagnosis. They can help patients not only adapt to living with sight loss, but also to ensure they do not become isolated and retain their independence. ECLOs provide a vital role in bridging the gap between health and social care services, such as fall prevention, job retention, education and social services, enabling early intervention. The service demonstrates how health and social care can work together effectively and this supports the NHS outcomes framework. At the West Suffolk NHS Foundation Trust we have an integrated ECLO. This has proven to reduce DNA's, reduce clinician time per patient, help patient compliance with treatment, and streamline the process for sight registrations. The Royal college of Ophthalmologists recognised the importance of the role of ECLOs in 2007, in its guidelines to commissioners and clinicians, which recommended the use of ECLO's as part of Age-Related macular degeneration services.

Methods In order to investigate the aims and objectives, evidence was gathered from Ophthalmologists, Patients and other eye clinic staff, with satisfaction surveys filled by those whom accessed or referred patients to the ECLO service.

Results Surveys were collated and feedback was positive. Having an integrated ECLO has meant timely referrals to appropriate services, providing access to support, and also services such as low visual aids and mental health. Direct access to mental health services reduces the need for GP appointments, meaning that those who require help receive it sooner. Early falls prevention and referrals into the community team have reduced the number of falls for patients with visual impairment, reducing hospital admissions. 95% of surveys received from staff, working with ECLOs, said that it improved the patients experience and reduced time spent in