

Letters

“THE ANALGESIC STEPLADDER - MISSING RUNGS.”

Editor,

“On a long enough timeline, the survival rate for everyone drops to zero.”

Risk is an inevitable aspect of medical care with recent studies illustrating the potential harm that can be done to patients using diclofenac with a cardiac history and codeine in paediatric patients. These studies apply in both cases to small subsets of each population however the implications have led health care bodies into disarray with the result that a large number of patients are no longer able to avail of these useful painkillers due to nationwide bans resulting in longer hospital stays and patients discharged on control drugs.

The background to the change in regulation of these two drugs is highlighted by The Medicines and Healthcare Products Regulatory Agency (MHRA) who have stated that diclofenac should not be used by people with underlying heart conditions or hypertension due to an increased risk of myocardial infarction and stroke¹. The use of codeine in children and adolescents has also been restricted after a European safety review was triggered by case reports of children who received codeine after tonsillectomy for obstructive sleep apnoea (OSA) and developed rare, but life-threatening adverse events².

A report, published in 2012, documented the cases of three children who died after receiving treatment with codeine after tonsillectomy³. Although the number of documented cases of codeine-related deaths remains small, the complications and legal outcomes of tonsillectomy malpractice claims found that the incidence of codeine-related deaths was much higher than expected. Using data from the Lexis Nexis Mega Jury Verdicts and Settlements database from 1984-2010 it was found that 18 percent of death claims and 5 percent of injury claims resulted from the use of opioids rather than haemorrhage which would be expected⁴.

Both medications are routinely used post operatively following a wide range of procedures in many specialities. While many of these patients are often well those with IHD other cardiovascular illnesses are encountered. Given the prevalence of children with OSA being less than 0.7% and those with CYP2D6 enzyme abnormalities (linked to abnormal codeine metabolism) being even less these patients are rarely encountered⁵.

Our patients' interest are first and foremost and providing them with adequate pain relief following surgical procedures is vitally important. Unfortunately we have blanketing guidelines which fail to take into account the low risk to most patients and certainly fail to take into account both medical expertise and patient choice and sensibility.

Since the introduction of these restrictions data from the Northern Ireland Otorhinolaryngology audit suggests that complications have significantly increased in local hospitals specifically adhering to these policies. It is vitally important that a wide range of analgesic options are available to both adult and paediatric patients following what can often be painful surgery. While many new options are available the option to revert back to tried and tested analgesics should remain open to the clinician and be based on a balance of risk and benefit much like the option to operate in the first place.

The authors have no conflict of interest

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ANTIPHOSPHOLIPID ANTIBODY SYNDROME: DIFFUSE ALVEOLAR HEMORRHAGE AND LIBMAN-SACKS ENDOCARDITIS IN THE ABSENCE OF PRIOR THROMBOTIC EVENTS

Editor,

Antiphospholipid antibody syndrome (APS) is traditionally characterized by the presence of circulating antiphospholipid antibodies (aPL) that lead to an increased risk of thrombosis and pregnancy morbidity.^{1,2} Considered rare, diffuse alveolar hemorrhage (DAH) is thought to be a non-thrombotic manifestation of APS, likely secondary to aPL induced pulmonary capillaritis.³ The diagnosis needs to be considered even in the absence of known thrombosis, as multiple recent case reports have identified DAH as the presenting symptom.⁴

CASE

A 35-year-old mother of four from El Salvador presented with a two day history of pronounced dyspnea and hemoptysis. Two years prior she had been diagnosed with adult-onset

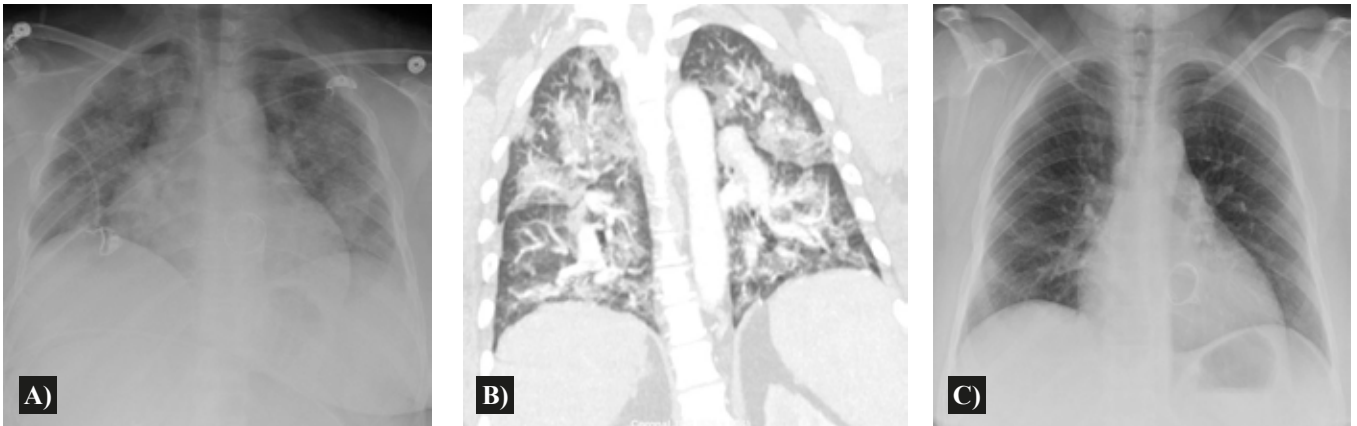


Figure 1. CXR completed at time of presentation reveals bilateral airspace disease (a). Coronal CT chest images completed at the same time reveal bilateral, predominantly central, heterogeneous groundglass opacities, involving both upper and lower zones with subpleural sparing (b). These opacities quickly resolved upon treatment with high-dose corticosteroids and IV cyclophosphamide (c).

epilepsy and had undergone mitral valve replacement (MVR) for severe presumed rheumatic mitral stenosis. Pathologic evaluation of the resected valve revealed leaflet fibrosis with Libman-Sacks endocarditis. There was no previous history of thrombosis or pregnancy loss. She was afebrile and was able to speak in full sentences with a SpO₂ of 92% on room air. Inspiratory crackles were auscultated bilaterally. No systemic findings of a connective tissue disease were present. CXR demonstrated extensive bilateral air space disease. Computed tomography of the chest identified bilateral groundglass opacities (Figure 1). Fiberoptic bronchoscopy demonstrated no endobronchial source of bleeding. Sequential bronchoalveolar lavage aliquots became progressively more hemorrhagic with microscopic evidence of hemosiderin-laden macrophages, suggesting diffuse alveolar hemorrhage (Figure 2). Laboratory investigations revealed the presence of a non-specific inhibitor, positive

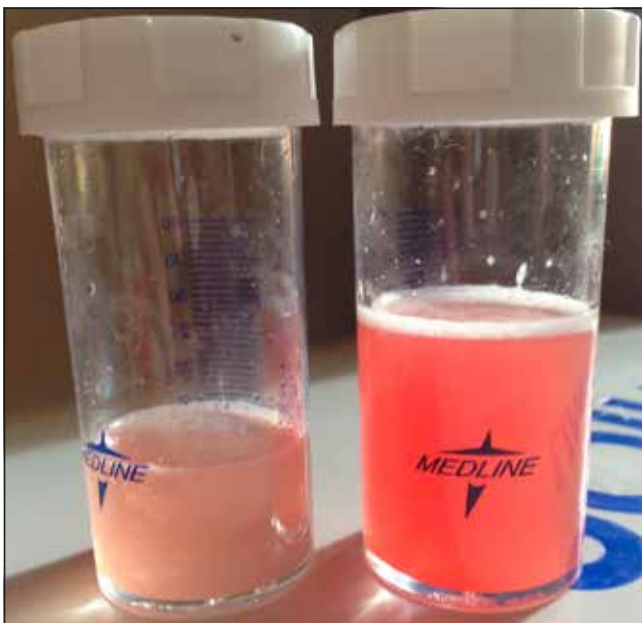


Figure 2. First (left) and second (right) sequential aliquots obtained from bronchoalveolar lavage. Serial returns are progressively hemorrhagic.

anti-cardiolipin IgG antibody, positive anti-dsDNA antibody, and serum thrombocytopenia and lymphopenia. Workup was negative for ANCA or anti-GBM related disease. A probable diagnosis of APS with suspected underlying systemic lupus erythematosus (SLE) was made. The patient underwent induction therapy with pulse-dose corticosteroids and IV cyclophosphamide with rapid clinical and radiographic improvement.

DISCUSSION

APS mediated capillaritis represents a rare cause of DAH.⁴ Although APS is traditionally defined by strict diagnostic criteria, recent literature supports the pathogenic role of APS in many non-thrombotic disease states.⁵ Non-criteria manifestations of APL include livedo reticularis, cardiac valve disease, thrombocytopenia, non-thrombotic neurologic manifestations, and nephropathy. Given our patient's thrombocytopenia, recently diagnosed seizure disorder, and positive aPL on two occasions, a diagnosis of probable APS was made. Her valvular disease was not considered diagnostic, as while APS is a known cause of Libman-Sacks endocarditis, it typically causes regurgitant mitral valve lesions rather than stenosis, consistent with the previous diagnosis of rheumatic heart disease.

APS may occur as an independent disease entity – primary APS – or in the setting of an underlying disease, usually SLE. In our patient, comorbid SLE is suspected given the presence of anti-dsDNA antibodies, lymphopenia, and recurrent idiopathic seizure.

Given the morbidity of DAH, the high-risk of recurrence, and the suspected underlying SLE, the patient has been managed with cyclophosphamide and hydroxychloroquine. Her inflammatory markers have normalized and she has had no subsequent disease flare.

Conclusion: DAH can be the presenting manifestation of APS in the absence of traditional manifestations such as venous/arterial thrombosis or pregnancy morbidity.

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WHAT BECOMES OF THE BROKEN NOSE?

Editor,

Nasal fractures are the most common facial injury, frequently associated with aesthetic, functional and psychological complications¹. Closed reduction of fractured nasal bones is first line treatment commonly employed by Otolaryngologists and Plastic Surgeons, however some patients require open septorhinoplasty¹.

In our practice the incidence of fractured nasal bones appears to be rising from approximately 100 cases in 2008 to 170 cases in 2012. For 95 percent of cases closed reduction of fractured nasal bones led to satisfactory results. However an increasing numbers of patients are being seen, following closed reduction of fractured nasal bones, who are unsatisfied with the result and are requesting further surgical intervention. Our review of 700 patients from 2008 to 2012 has shown a rise in those undergoing either rhinoplasty or septorhinoplasty from 1.9 percent to 8.4 percent.

Seventy percent of patients with fractured nasal bones were male with an average age of 31 years, of which approximately 50 percent sustained nasal injury secondary to alleged assault. SIMON (Single, Immature, Male, Overly expectant and Narcissistic) is an acronym commonly used to identify patients who are likely to be unsatisfied with the outcome of nasal surgery². We appear to be seeing an increasing number of patients fitting the SIMON criteria who are 'unsatisfied' with the outcomes of a procedure that in general provides satisfactory results. Alternatively there maybe a legal motivation for those pursuing open surgery considering that almost half of our patients reported injury secondary to alleged assault³.

Complex nasal injuries are frequently associated with high failure rates, following closed reduction of fractured nasal bones. These include grade III fractures involving the nasal septum and patients with previous nasal fractures^{1,4,5}. Septal involvement is frequently underestimated by physicians when assessing and managing nasal fractures^{1,4,5}. Our study showed many discrepancies between findings documented at the time of clinic compared to at the time of theatre, particularly in relation to the nasal septum. If closed reduction of fractured nasal bones is conducted without addressing a septal fracture, the septum will in time move the nasal bones back towards their deviated position^{1,4,5}. Moreover, our results showed that approximately 25 percent of patients who had an unsatisfactory outcome reported previous nasal fractures.

Fractured nasal bones are successfully treated by closed reduction in the vast majority of cases, however a rising number of patients are now undergoing open surgery. We believe the reason for this increasing trend is multifactorial. Our results suggest that there is an increasing number of SIMONS within our society who are frequently unsatisfied with the result of cosmetic surgery or surgery following assault or injury. Furthermore factors such as status of the nasal septum and previous nasal injuries have to be considered if initial treatment is to be successful. Finally it is the authors experience that increasing numbers of patients with nasal fractures are being booked for septorhinoplasty at the outset rather than nasal bone manipulation if this is felt acceptable at the time of consultation and we predict that this trend will continue.

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GENERAL PAEDIATRIC SURGERY: A SURVEY OF NORTHERN IRELAND GENERAL SURGERY SPECIALIST REGISTRARS

Editor

INTRODUCTION:

From 1994 to 2005, paediatric surgical activity in district general hospitals (DGH) in England declined by 30% across all surgical specialities¹. We surveyed current NI general surgery specialist registrars to establish their intentions as regards general paediatric surgery (GPS) for eventual consultant practice if appointed to a DGH.

METHOD:

Thirty-five speciality specialist registrars were sent an on-line questionnaire. Enquires concerned previous experience of paediatric surgery, conditions and age profiles of children the respondent would be prepared to treat in eventual consultant practice if appointed to a DGH.

TABLE 1.

Service trainees would intend to provide in Consultant practice.

Operation	% Registrars (n=25)
Appendicectomy	88
Scrotal exploration	80
Suturing of minor facial laceration	76
Incision and drainage of abscess	84
Admit a child with a head injury	68
Trauma laparotomy	28
Elective circumcision	44
Toenail surgery	60
Orchidopexy	16
Herniotomy	20
No paediatric service	12

RESULTS:

The response rate was 71% (n=25). Thirty-six percent (n=9) of specialist registrars had previous experience of specialist paediatric surgery. Operations trainees would offer if appointed to a DGH are reported in table 1. The age profiles of children with a minor head injury, appendicitis and an acute scrotum that trainees would be prepared to admit under their care or operate on are reported in figures 1, 2 and 3. Sixty percent (n=15) felt a period of paediatric training

during registrar training would make them more attractive to an employing trust, yet only 52% (n=13) felt this should be mandatory.

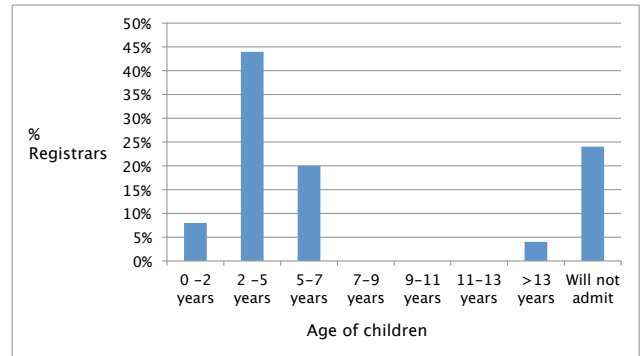


Fig 1. Minimum age profiles of patients trainees would admit with minor head injury

DISCUSSION:

The provision of GPS in the DGH has reached a crossroads. The fundamental problem has been a failure to train and appoint sufficient numbers of general surgeons with appropriate paediatric skills and experience. The major finding of this survey is that the majority of trainees are interested in emergency GPS and have indicated a desire to provide a service in the future. This is at odds with the findings of Craigie *et al* who conducted a survey of adult general surgeons and their paediatric practice in Scotland in 2005. At that time, 70% of DGH and 100% of remote and rural consultant general surgeons reported that they operated on children regularly, yet only 29% of these surgeons thought their successor would follow on in a similar role².

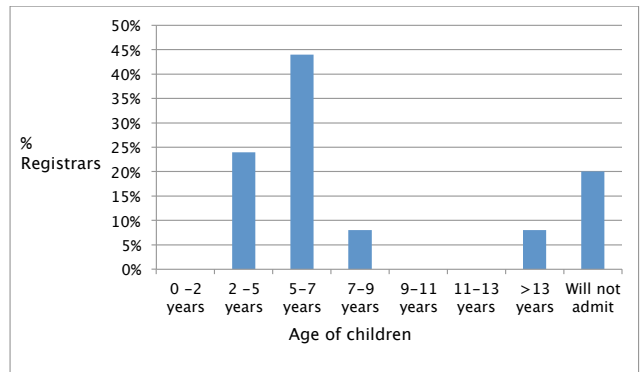


Fig 2. Minimum age profiles of boys trainees would operate on with an acute scrotum.

“Delivering a First Class Service” published in 2007 by the Children’s Surgical Forum recognised that not all DGHs would continue to provide GPS but that larger DGHs should have sufficient workload, staffing and facilities to continue to provide children’s services. The forum proposed that “children and their families must be able to access minor/routine surgery and outpatient facilities for more specialised conditions locally” and that “children’s services should be seen as an essential service”³.

If emergency GPS is to continue in the DGH, commissioning health authorities and trusts must recognise the needs of these willing surgeons in terms of additional support for CPD to ensure a quality service can be maintained locally. If solutions are not found, tertiary paediatric centres will undertake larger GPS caseloads at the expense of specialist neonatal and paediatric cases. This will have training implications for their own trainees⁴. Further, if this ‘drift’ towards centralisation is not stopped, it will eventually impact on the ability of DGH paediatric departments to safely accept emergencies. Eventually, this course will undermine the status of the hospital as a fully functioning DGH.

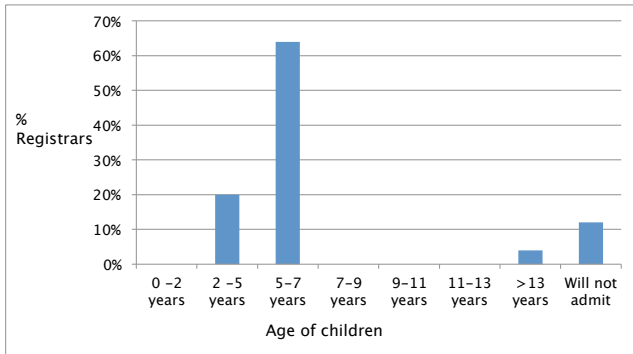


Fig 3. Minimum age profiles of patients trainees would operate on with appendicitis.

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LACTIC ACID BACTERIAL INFECTION, PROBIOTICS AND GUT MICROBIOMES

Editor,

The 21st century has seen the emergence of the study of the genome (genomics) and its related disciplines, including metagenomics and transcriptomics, relating to prokaryotic, as well as eukaryotic organisms. This has largely happened due to technical developments in DNA sequencing technology, particularly with next generation sequencing (NGS). As a result, we are now beginning to read reports on the many applications of such advanced sequencing technologies in many disease and ecological states, including deep screening of the complex ecology of the human gut and other anatomical sites. Much attention has recently been focussed on advances in the knowledge of the gut microbiome, whereby this has been called “*the last human organ*” to be discovered and further investigated.¹

Several such investigations have identified the presence of lactic acid bacteria (LAB) in such niches^{2,3} and other studies are beginning to link variation in lactic acid bacteria with a variety of disease states, including obesity⁴ and diabetes.⁵ For instance, some of our collaborative work with colleagues has demonstrated that DNA sequencing of the gut microflora revealed that bacterial composition of a diabetic group was different from that of a healthy group.⁵ In addition, *Bacteroides vulgatus* and the genus, *Bifidobacterium*, were poorly represented in the microbiota of the diabetic group, and a significant decrease was observed for *Bifidobacterium* by real-time PCR. Taken together, in this work we observed the characterisation of gut microbiota in diabetic patients, which suggests that the gut microbiota of diabetic patients have changes associated with occurrence and development of diabetes.

With all of this exploitation the functional properties of the lactic acid bacteria in foodstuffs and the increased consumption of such probiotic products, we believed it timely to examine any potential increase in clinical infection with such organisms locally.

We examined the incidence of clinically significant infections with the LAB over the first decade of the new millennium (2000-2010) at Belfast City Hospital, whereby we defined a clinically significant infection, where a LAB was the aetiological agent of an episode of bacteraemia. There were ten cases in total, which consisted of LAB belonging to three genera, namely *Pediococcus* (5 cases), *Lactobacillus* (3 cases) and *Leuconostoc* (2 cases). All of these genera have been used in a variety of fermented foods, although we cannot confirm that these infecting organisms came from either a fermented food or a probiotic product, as these organisms are natural inhabitants of various anatomical niches within the human host. Of these 10 cases, two cases involving *Pediococcus* were from patients attending the then NI Regional Cancer Centre at Belvoir Park Hospital. Previously,

it has been shown that the gastrointestinal tract of patients undergoing cytotoxic chemotherapy regimens can become leaky, thus allowing the translocation of gut microflora into the circulatory system and cause bacteraemia. With regard to the antibiotic susceptibility of the 10 LAB isolates examined against the β lactams (penicillin), the macrolides (erythromycin) and the glycopeptides (vancomycin & teicoplanin), antibiotic resistance rates were 20%, 20%, 70% and 70%, respectively. One LAB isolate was multiresistant, i.e. resistant to two classes of antibiotics from three; i.e. β lactam + glycopeptides and another LAB isolate was pan-resistant, i.e. resistant to all three classes of antibiotics. However, even with such resistance patterns, there were alternative antibiotic management strategies for each of these isolates, namely the macrolides for the former isolate and tetracycline for the latter isolate.

From these reports, although the LAB have been involved in a small number of cases of bacteraemia over a recent 10 year period, these organisms are not considered frequent causal agents of bacteraemia and are considered organisms of low pathogenicity (if any). Therefore, the benefits of their use as mediators of immunological homeostasis of the gut outweigh their risk as causal agents of bacteraemia, except, as we can see from above, in patients with an immunocompromised or immunosuppressed status, which may require further investigation.

The low frequency of their aetiological involvement in clinical infection allows us to move forward with relative confidence with immunocompetent populations, relating to the novel and innovative ways we can deploy such organisms to moderate host microbiomes.

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A POTENTIAL DIAGNOSTIC ROLE OF DUAL-PHASE ¹⁸F-FDG PET/CT SCANNING

Editor

Differentiation between benign and malignant processes is helped by positron emission tomography – computed tomography (PET-CT). This involves a scan one hour after intravenous injection of Fluorodeoxyglucose (FDG) tracer.¹ Malignant lesions use glucose preferentially, with prolonged affinity for FDG, thus appearing as a “hot spot” as quantified by elevated maximum standardised uptake value (SUVmax). Infective processes also induce increased FDG uptake.² Dual-phase scanning, which employs both early and delayed scans may separate these conditions. We report two cases where dual-phase scanning resulted in a change in the patients’ diagnosis and management.



Fig 1. The initial study demonstrating a bronchial lesion.

CASES

A 55-year-old male life-long smoker presented with chest pain, shortness of breath and haemoptysis. A CT scan demonstrated an obstructing lesion in the left lower lobe bronchus and distal consolidation. Bronchoscopic biopsies were reported as squamous cell carcinoma. A ^{18}F -FDG PET/CT half-body one-hour and four-hour washout studies were performed (Figure 1). An abnormality in the proximal left main bronchus had a SUVmax value of 13.9, with distal atelectasis and central necrosis. However, FDG uptake was seen anterolaterally within the collapsed segment, with a SUVmax of 10. Delayed imaging showed a 20% increased SUVmax of the central hilar and anterolateral peripheral lesions, with the necrotic area showing no change in SUVmax (Figure 2). The findings were inkeeping with hilar and peripheral malignant lesions, with surrounding inflammation. Histopathology confirmed a pT4 N1 squamous cell carcinoma, with satellite lesions and aspergillus infection in the collapsed lower lobe. Unfortunately, he developed local recurrence and bony metastases and died seven months following resection.

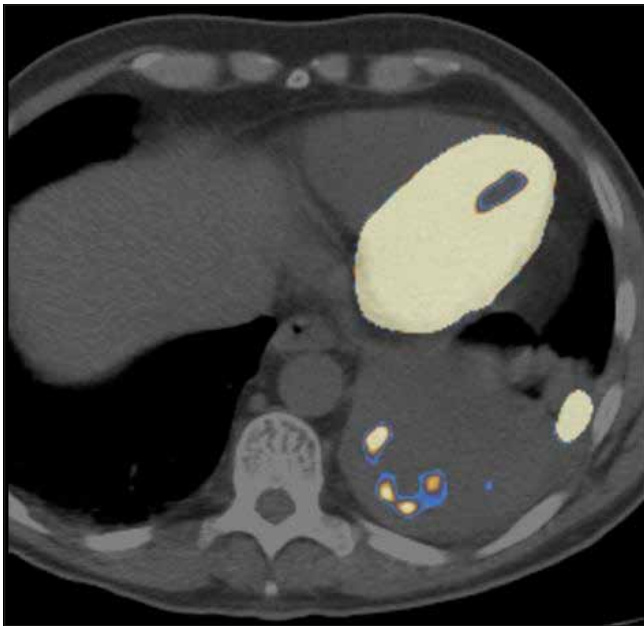


Fig 2. The delayed study at four hours.

A 46-year-old female smoker presented with shortness of breath and a productive cough. CT demonstrated right upper lobe collapse and a central lesion. Bronchoscopy visualised a friable necrotic lesion obstructing the right upper lobe provisionally diagnosed as malignancy. Cytology was atypical, with a small piece of vegetable matter, suggesting aspiration. ^{18}F -FDG PET/CT showed a lesion, with a SUVmax of 5.6, in the right upper lobe bronchus, suggesting a hilar tumour and distal atelectasis with SUVmax of 4.8 (Figure 3). A washout study revealed a decreased SUVmax from 5.6 to 3.4 in the hilar lesion, inkeeping with inflammation (Figure 4). Repeat bronchoscopy retrieved vegetable matter with no histological malignancy.

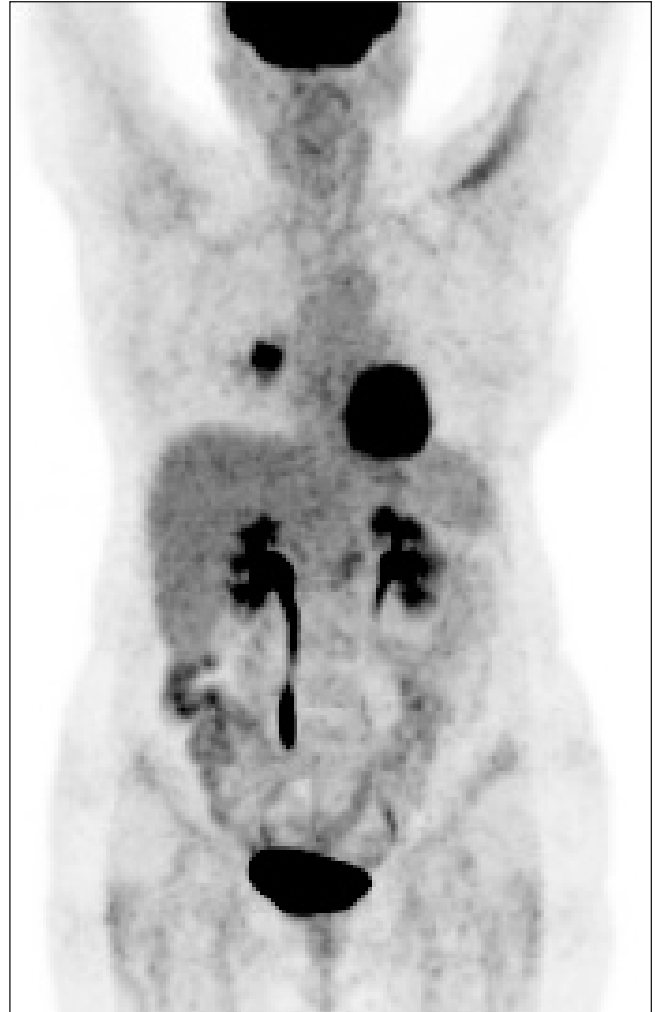


Fig 3. The MIP image demonstrating a bronchial lesion.

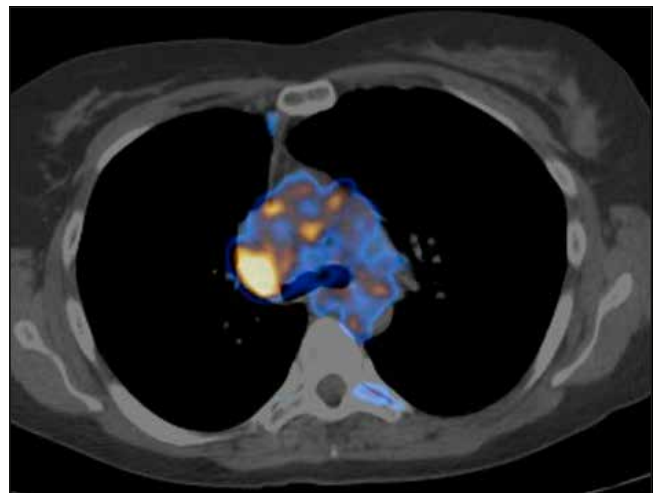


Fig 4. The delayed scan at 4 hours.

DISCUSSION

Malignant cells have upregulated GLUT transporter and hexokinase activity, trapping FDG.^{1,3} After phosphorylation by hexokinase, FDG-6-phosphate cannot be used nor stored.¹ ³ FDG uptake in malignant cells continues and SUVmax peaks 130-500 minutes after FDG injection.⁴ Inflamed tissue, with higher metabolic rate will also light up. However,

FDG will be metabolised and replaced by unlabelled glucose. If a malignant cell is present, the continued FDG uptake between scans results in higher intensity of retained FDG at 4 hours. Inflammatory cells, which retain normal glucose-6-phosphatase activity, will have decreased signal. In our experience, a rise in SUVmean of 30% correlates with malignant disease, with no increase suggesting benign diagnosis.⁵ In the presence of infection satellite lesions may be missed, thus understaging the disease, with possible unnecessary non-curative surgery. Despite additional cost, a washout study can alter the management strategy of patients.

The authors have no conflict of interest.

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DOCTOR-PATIENT RATIOS AND ACUTE MEDICAL ADMISSIONS: A SIMPLE SOLUTION FOR AN IMPORTANT PROBLEM!

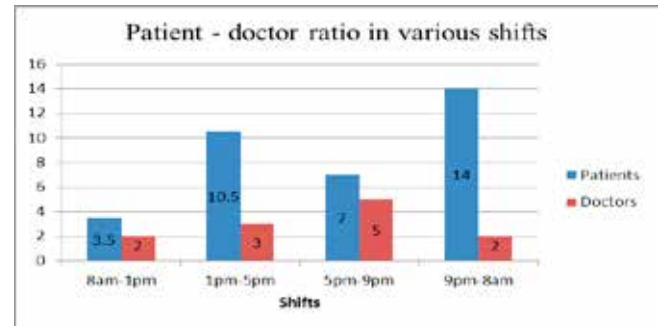
Editor,

There has been a 9% rise in the number of hospital admissions under acute care over the last 5 years in Northern Ireland and majority of these are over 65 years of age and with complex needs¹. The medical admission process has considerably improved over the years with introduction of proformas and risk assessment tools. Both these factors have contributed to an increase in workload for doctors undertaking acute medical admissions. Over a quarter of medical registrars throughout UK reported an unmanageable workload and about 66% reported it as heavy as per the recent survey conducted by the Royal College of Physicians².

At a recent audit meeting within our hospital, a number of clinical incidents concerning the initial admission process were highlighted. These included incomplete venous thromboembolic risk assessments, poor record of medications and, prescription errors. Majority of these incidents happened during night shifts. We hence undertook a project to ascertain the reasons for this by specifically looking at the distribution of doctors.

FIGURE 1.

Average patient and doctor numbers during various shifts in a 24-hour period.

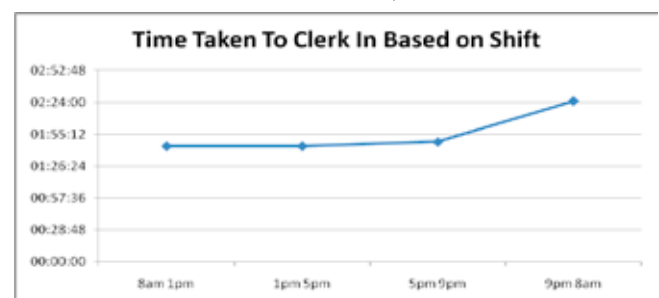


We retrospectively analysed all acute medical admissions during the month of January 2013 in our hospital particularly focussing on their distribution over a 24-hour period. We divided 24-hour period into 4 shifts (8am-1pm, 1pm-5pm, 5pm-9pm and, 9pm-8am) as the number of doctors varied during these time periods as per the existing shift rota. Data was obtained from electronic patient management system (ePMS, Healthintec) and statistical analysis performed using Microsoft Excel (version 2010).

FIGURE 2.

Average time taken to assess patient from the time of emergency department referral.

(Shifts on the X-axis and Time (in hours: minutes: seconds) on the Y-axis).



1,092 admission episodes were included in the study. The average number of admissions in a 24-hour period were 35, of which 40% (n=14) were during night shift (9pm-8am). Although the total numbers of doctors seemed adequate, we found a significant disparity in the doctor-patient ratios among different shifts i.e. the average number of medical admissions and the number of doctors on various shifts (Figure 1). We also found that there was an upward trend in the average time taken to assess patients following a referral over a 24 hour period with a difference of approximately 40 minutes

between day (8am-9pm) and night shifts (9pm-8am) (Figure 2). Moreover, majority (64%) of the 4-hour breach times in commencing initial assessment occurred during night shifts (9pm-8am).

Our analysis showed that during night shifts the numbers of doctors were disproportionately lower with respect to the clinical need. Following this project we recommended a redistribution of doctors to increase their number during night shifts. This was possible without affecting the working hours and the banding requirements. We believe that by improving doctor-patient ratios we can reduce the individual workload thereby giving doctors more time to ensure adequate completion of the initial admission proformas. We hence recommend that all hospitals should undertake similar projects by looking at the distribution of admissions and doctors, and introducing this simple solution towards improving delivery of patient care and safety.

CONFLICT OF INTEREST

The authors wish to state that one of the authors, Dr. Shaji Chacko, is the owner of the company called Healthintec. This company has created electronic patient management system (ePMS) from which data was obtained for the study stated in the article.

The author has no conflict of interest.

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THE BURDEN OF MOTORCYCLE TRAUMA AND SEASONAL CHANGE AT A REGIONAL TRAUMA CENTRE.

Editor,

In recent years the incidence of road traffic fatalities in developed countries per road user has decreased.¹ However there is still a disproportionate number of fatalities on the road attributed to motorcycles.² The Department of Environment Transport and regions estimates that a fatality or serious injury occurs with a motorcyclist approximately every 666 000 kilometres travelled compared to approximately 18 662 000 kilometres travelled by car.³

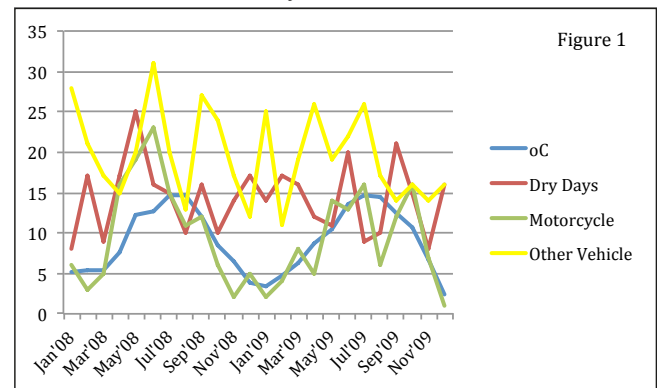
Northern Ireland has a rich history in motorcycles and racing, between 1998 and 2008 there were 4, 416 motorcycle accidents and this accounted for 13% of all seriously injured or killed. The estimated cost to the economy is £62 million annually. Studies in America have demonstrated that there is a significant relationship between temperature and general trauma admissions.⁴⁻⁵

Our study aims to identify predictors for peaks in motorcycle

trauma, including season, weather and frequency of motorcycle events.

MATERIALS AND METHODS

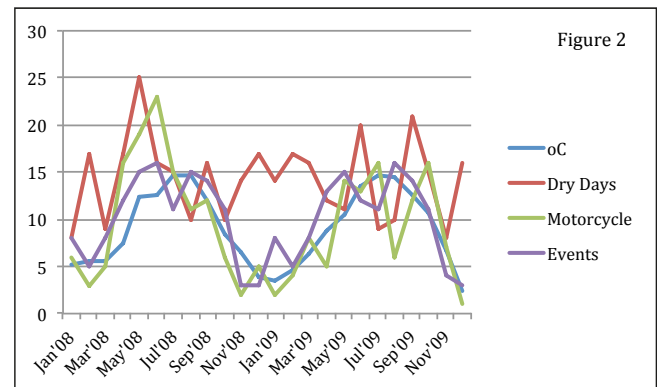
We reviewed 699 trauma referrals to RVH between 1st January 2008 and 31st December 2009. Referrals were recorded in a prospective fracture outcomes database. Weather data was gathered from the UK meteorological office's prospective database. Dry days were considered as days with <1mm rainfall. Dates of all official motorcycling events were collected from the Motorcycle Union of Ireland Ulster Centre



(MCUI UC). All events that the Royal Victoria Hospital may be expected to cover were included.

RESULTS

There were 228 (32%) motorcycle-related traumas, 15 (6.6%) female and 213 (93.4%) were male. The mean age



for motorcycle trauma was 33 years (range 13 -76) versus 38 years (range 13 - 90) for other vehicular trauma. There were no mortalities during admission at RVH.

Figure 1 demonstrates general seasonal trends in temperature, trauma frequency, dry days and frequency of motorcycling events. The trends of peaks and troughs of motorcycle trauma, temperature and number of dry days appear to follow each other closely. This trend would suggest an association between them.

The frequency of motorcycle accidents also closely follows the number of motorcycling events in each month, as demonstrated by Figure 2.

To determine what degree of causality rainfall, dry days and motorcycle events had on trauma incidence we used a Spearman rank co-efficient (SPC). We found poor correlation between the peaks of motorcycling accidents & other vehicle road accidents in both 2008 and 2009 (SPC 0.292 and 0.177 respectively). Motorcycling accidents are most common in months with most official motorcycle racing events (SPC 0.446 in 2008 and 0.888 in 2009). In both years, motorcycling RTA's correlated strongly with temperature (SPC 0.692 and 0.743 respectively) while other vehicle RTA's had a much weaker association with temperature (SPC 0.157 and 0.266 respectively). However dry days did not correlate inversely with motorbike accident incidence (SPC 0.385 in 2008 and -0.142 in 2009).

DISCUSSION

While any single road traffic accident is in itself sporadic, trends in the frequency of such accidents throughout the year may be useful for planning the provision of health service facilities. Motorcycling RTA's occur most frequently in months which have most official motorcycling events and which have higher mean temperatures. Rainfall does not appear to reduce trauma incidence.

With this in mind an opportunity may lie to direct services and advertising at high-risk times and improve the efficacy of acute services and public health awareness without needlessly increasing the strain on limited services.

The authors have no conflict of interest.

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AWARENESS OF ADVERSE EFFECTS OF AZATHIOPRINE IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE – MORE TO BE DONE?

Azathioprine (Imuran, Imuger) Survey	Less than once a week ____
<p>Please answer all 10 questions</p> <p>1) Are you: Male ____ Female ____</p> <p>2) Age: ____ years old</p> <p>3) Do you have: Crohn's disease ____ Ulcerative colitis ____ Indeterminate colitis ____ Not sure ____</p> <p>4) How long have you been taking azathioprine (Imuran, Imuger)? Since (state month and year) _____ or for ____ years (state number of years) or Not sure ____</p> <p>5) Did you receive written (e.g. leaflet) or verbal (spoken) information about the side effects of azathioprine (Imuran, Imuger) when you were first prescribed the drug? No ____ Not sure ____ Yes ____ If yes, please state type of information (tick all that apply): Written (e.g. leaflet) information ____ Verbal (spoken) information ____</p> <p>6.) What dose of azathioprine (Imuran, Imuger) are you currently taking? ____ mg per day or ____ tablets (state number of tablets) or Not sure ____</p> <p>7.) On average, how many days of the week do you remember to take azathioprine (Imuran, Imuger)? Every day, I rarely forget ____ 5-6 days each week ____ 3-4 days each week ____ 1-2 days each week ____</p>	<p>8.) In your opinion, which of these side effects can azathioprine (Imuran, Imuger) cause? (Please tick all possible side effects, even if you have not personally suffered these side effects)</p> <p>- Skin rash Yes ____ No ____ Not sure ____ - Inflammation of the pancreas (pancreatitis) Yes ____ No ____ Not sure ____ - Low white cell count and increased risk of infection Yes ____ No ____ Not sure ____ - Constipation Yes ____ No ____ Not sure ____ - Increased risk of lymphoma (a blood-borne type of cancer) Yes ____ No ____ Not sure ____</p> <p>9.) Do you get blood monitoring (blood tests) done while taking azathioprine (Imuran, Imuger)? Yes ____ No ____ Not sure ____ If yes, where do you get these blood tests done? GP ____ Hospital ____ If yes, roughly how often do you get these tests done? Once a month ____ Once every 2 months ____ Once every 3 months ____ Once every 4 months ____ Once every 5-6 months ____ Once every 9-12 months ____ Less than once every 12 months ____</p> <p>10.) Have you ever had a sore throat, fever, or felt unwell with flu-like symptoms while taking azathioprine (Imuran, Imuger)? Yes ____ No ____ Not sure ____ If yes: What symptom did you have? (please state) _____ Did you go to visit your GP? Yes ____ No ____ Not sure ____ Did you have blood tests taken? Yes ____ No ____ Not sure ____ Did you temporarily stop taking azathioprine (Imuran, Imuger)? Yes ____ No ____ Not sure ____</p>

Fig 1. Azathioprine Questionnaire

Editor,

Azathioprine is an important immunomodulator in inflammatory bowel disease (IBD), particularly in the maintenance of remission. Although well tolerated by many patients, there are significant adverse effects, including nausea, leucopenia, pancreatitis, and risk of lymphoma, which require patient education. British Society of Gastroenterology (BSG) guidelines state patients should be offered advisory material on their medications.¹

This study assessed the proportion of IBD patients who received information regarding azathioprine, and their understanding of adverse effects. Patients, who were currently (or recently) taking azathioprine and attending the Gastroenterology Outpatient Department at St. Vincent's University Hospital in Dublin, from June 2010 to May 2011 were invited to complete a short 10-question survey. A 10-question anonymous survey was designed to gather information regarding patients' understanding of azathioprine and its adverse effects (*Fig 1*). Apart from demographic information patients were asked about duration of treatment with azathioprine, type of information received, current dosage and compliance, understanding of side-effects, frequency of blood tests, adverse effects experienced and their management.

RESULTS

96 completed questionnaires (52% male, 48% female) were analysed. Fifty-nine (61%) patients had Crohn's disease, 33 (34%) ulcerative colitis, and 4 had indeterminate colitis. Sixty-two (65%) received information about azathioprine from their physician (23% written, 37% verbal, 39% both written and verbal). 83 of 96 (93%) patients remembered to take their medication daily. 61 (71%) were aware that low WBC counts were a side effect of azathioprine. Eighty-nine (93%) of patients had blood monitoring performed, but the frequency varied widely, from monthly (21; 24%) to less than once every 12 months. Awareness of other side effects was lower - skin rash (38%), pancreatitis (30%), lymphoma (36%). Thirty-eight (40%) patients were unwell while taking azathioprine: of these, 13 (34%) experienced a flu-like illness and 14 (37%) had a sore throat. When unwell, 51% visited their GP, only one third had blood tests, and 20% temporarily stopped azathioprine.

DISCUSSION

BSG guidelines suggest full blood picture (FBP) initially every 2-4 weeks for two months and then bimonthly.¹

Our study showed 24% of patients had their FBP checked monthly, but almost 20% had their FBP checked less than six monthly.

The 2009 Cochrane Review indicated that 28% of 621 patients taking azathioprine experienced side effects.² Severe leucopenia develops in 3% of patients.³ Only one third of our respondents recalled the minor side effects such as rash. However, 71% knew about the risk of a low white cell count. Just over one third of patients (36%) knew about the risk of lymphoma.

While 65% of our patients recalled receiving information about azathioprine, however, as only 14% of verbal medical information is remembered, it is imperative that patients receive additional forms of information - combining verbal and written is ideal.^{4,5}

In this era of electronic communication the use of devices, such as smart phones, may be relevant in these young patients. 'Apps' could provide reminders for the patient and their doctor to have two monthly white cell counts checked - as has been used in HIV patients.

The authors have no conflict of interest.

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