

## Letters

### TRACHEOSTOMY: WE NEED TO KNOW A HOLE LOT MORE.

Editor,

Tracheostomy is commonly performed procedure and can be a distressing prospect for both patient and surgeon. Patients undergoing tracheostomy are becoming increasingly more common. Frequently tracheostomy is performed following, or in anticipation of, a prolonged intubation for weaning purposes<sup>1</sup>. It is also performed to provide a conduit for airway suctioning in the infirm, for airway preservation in those with head and neck cancers and less frequently in trauma. As a result this procedure is performed by staff from a number of disciplines including ENT, Anaesthetics, Cardiothoracic and General Surgeons. Due to the multi-professional nature of this procedure these patients will often be admitted to wards without traditional airway teams during or following their acute admission. It is therefore essential that all medical and indeed nursing staff are familiar with the basic care involved in managing patients with tracheostomies, to avoid potentially life threatening complications<sup>2</sup>.

We have provided a questionnaire survey to junior medical staff in the Northern Trust to investigate the level of knowledge and confidence in caring for patients with a tracheostomy. Eighty-seven percent of responses were from foundation trainees. Fifty-six percent of all respondents had received training in tracheostomy care with 50% being aware of the Trust's policy on the subject. Sixty-two percent commented that they were not confident with being able to change a tracheostomy tube and few were comfortable with airway management in general. Despite this the same percentage had looked after a patient with a tracheostomy. Most of the respondents understood the wide variety of indications for tracheostomy but had very limited understanding of the types of tube available and the rationale for their use. All respondents thought that further teaching on the subject was needed and the majority felt that this would be beneficial upon starting a foundation program, with nearly 20% feeling that training was required immediately. The respondents felt that tracheostomy care is poorly taught at undergraduate level and that a simple troubleshooting algorithm on the front of patient notes to deal with common tracheostomy problems would be beneficial.

Patients with temporary or long-term tracheostomies are frequently seen in our hospitals for a variety of reasons. It is likely that their presence on general wards may become increasingly common and therefore reliance on traditional airway teams is unlikely to be sustainable for non-emergencies. Adequate teaching from an early stage should provide a baseline knowledge that will allow doctors to more confidently handle problems that may arise from this particular patient group enabling a more efficient clinical course. Recent publications suggest that a regional

teaching scheme should be implemented for F0 doctors with workshops in airway management. In the interim, the authors recommend that each trust provides a tracheostomy teaching session to its new doctors at induction, and that an individualised care pathway is available in the front of the notes for each patient following tracheostomy<sup>3,4</sup>.

The authors have no conflict of interest.

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### ENDOSCOPIC SELF-EXPANDING METAL STENTS FOR MALIGNANT COLONIC BOWEL OBSTRUCTION

Editor,

Colon cancer presents as acute bowel obstruction in approximately 20% of patients<sup>1</sup>. A common treatment for a patient presenting with acute malignant bowel obstruction is resection and colostomy. Emergency surgery for acute obstruction is associated with a mortality rate of 2.8- 3.5% after elective surgery and 8-10% after an emergency operation with resection, with a complication rate of 24% and 38% respectively<sup>2</sup>. Instead of emergency surgery, an alternative option is placement of a self-expanding metal stent (SEMS).

Recently published guidelines show variation in recommendations with regards to SEMS usage. NICE guidelines for management of colon cancer have advised that if the cancer appears potentially curable on scans, medics should explain to the patient and their family that acute bowel obstruction can initially be managed either with emergency surgery or a colonic stent, and that there is no clear evidence that one treatment is better than the other. If the cancer appears non-curative then a SEMS should be considered as a palliative measure<sup>3</sup>. However ESGE guidelines (endorsed by AGSE) do not recommend SEMS as a bridge to surgery as standard treatment and should only be considered as an alternative to emergency surgery in those who have an increased risk of postoperative mortality. They do however

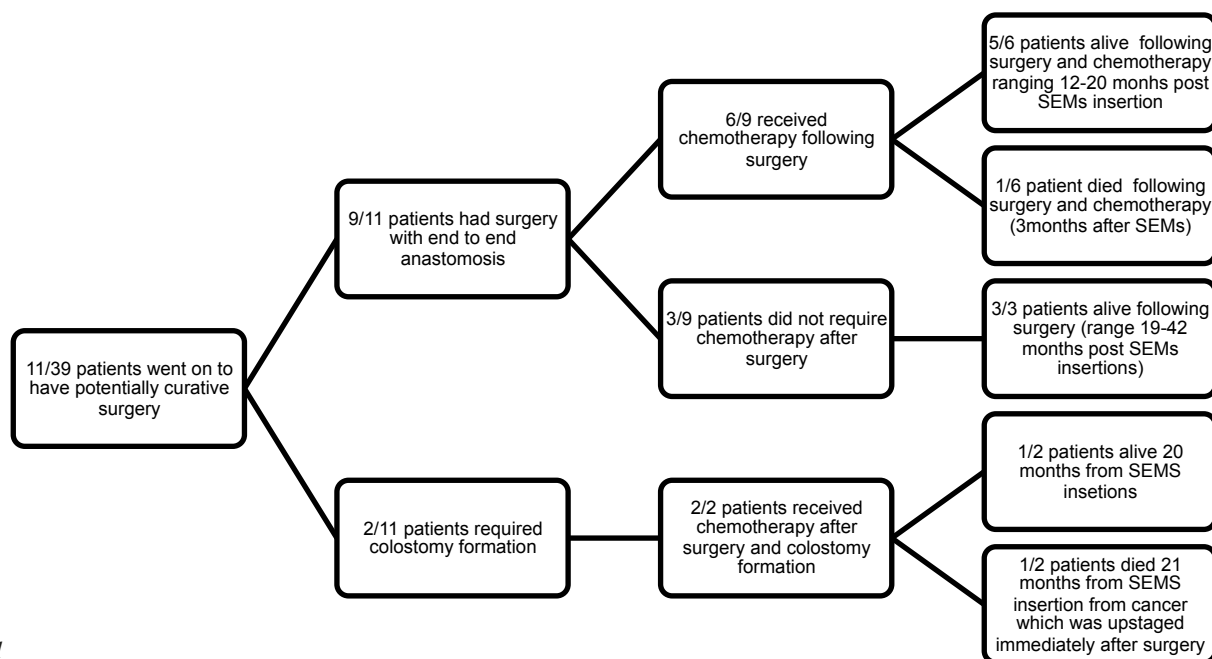


Fig 1

state that SEMS is first line treatment for palliative patients<sup>4</sup>.

The purpose of this study carried out in a teaching hospital in Belfast was to assess our patient outcomes. We felt this was necessary given the variation between the ASGE guidelines and the NICE guidelines. Also, we felt our outcomes differed from those of some studies considered for the guidelines.

All patients who had a SEMS inserted between October 2009 and January 2011 were included. Data regarding the patients' age, sex and co-morbidities were recorded. With respect to the SEMS insertion, data recorded included time to stent from admission, histology and staging, time to surgery (if applicable), location of tumour and outcome (including complications and failure).

59 patients were recorded as having SEMS insertion attempted between these dates. 49 of the patients who were stented had malignant obstruction whilst the remainder had benign causes, (7 diverticular strictures, 1 extrinsic compression, and 2 anastomotic strictures). Out of the 49 patients with malignant obstruction there were 10 failures at the time of insertion. Of the remaining 39 patients SEMS were inserted at a median of 2 days from admission (range 0-26 days). 11 of the 39 patients went on to have curative surgery following SEMS insertion. 9 of 11 patients received primary anastomosis. 9 of these 11 patients who had SEMS as a bridge to surgery were alive at the time of data collection (Figure 1).

In our experience there is a positive outcome for patients receiving SEMS both for palliative purposes and also as a bridge to surgery. Low complication rates for these patients and high rates of primary anastomosis are encouraging.

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#### A SEVERE CASE OF ADULT ONSET STILL'S DISEASE WITH MYOPERICARDITIS, RESISTANT TO TREATMENT WITH TOCILIZUMAB BUT RESPONSIVE TO ANAKINRA.

Editor,

A 26 year old male presented with high-grade pyrexia, sore throat, joint pain and a distinctive evanescent rash on his hands and legs. Within 24 hours of hospital admission he developed severe central chest pain (requiring opiate analgesia) and shortness of breath. On examination, he had a mildly congested oropharynx, pyrexia of 39°C, sinus

tachycardia (>120bpm) and muffled heart sounds. He developed acute synovitis of his wrists, knees and ankles. ECG showed widespread ST elevation across limb and chest leads. CXR showed bilateral moderate pleural effusion. Abnormal blood results included: raised cardiac troponin 661 ng/L(<14ng/L), WBC 25x10<sup>9</sup> cells/L(4-10x10<sup>9</sup> cells/L), 90% neutrophils, CRP 376 mg/L(1-5mg/L), ESR 68mm/hr, Hb 10.7 g/dl(13-18g/dl), ferritin 4427 ug/L(30-400ug/l), rheumatoid factor (RF) weakly positive at 23 (0-14 IU/mL). Anti-cyclic citrullinated peptide (Anti-CCP), antinuclear antibody (ANA) and vasculitic screen were negative. Extensive infection screen (including serial blood cultures, viral/fungal myocarditis screen and HIV) was negative.

Major criteria	Minor Criteria
Fever of at least 39°C lasting at least one week	Sore throat
Arthralgia or arthritis lasting two weeks or longer	Lymphadenopathy
Characteristic skin rash (nonpruritic macular or maculopapular salmon-colour) over the trunk or extremities during febrile episodes	Hepatomegaly or splenomegaly
Leucocytosis (10,000/mL or greater) with at least 80% granulocytes	Elevation in liver enzymes concentrations - ALT, AST, LDH
	RF and ANA negative

Fig 1. Yamaguchi criteria (1): In the presence of five features with at least two being major diagnostic criteria yields 96% sensitivity and 92% specificity for AOSD

A trans-thoracic ECHO showed pericardial effusion with mildly impaired left ventricular systolic function (LVEF 50%). CT imaging confirmed bilateral pleural effusion and moderate pericardial effusion (Figure 1). In the absence of confirmed infection and based on characteristic features (high grade fever, rash, arthritis, hyperferritinaemia, and neutrophilia) a working diagnosis of AOSD<sup>1</sup> presenting with myopericarditis and pleuritis, was made. (Figure 2)



Fig 2. CT chest showing pericardial and plural effusions (white arrows).

Initial treatment was with pulses of high dose intravenous methyl prednisolone (500mgs) over three days. There was an immediate response with resolution of pyrexia, chest pain and improved cardiac function. However symptoms recurred after switching to oral prednisolone 40mgs/day. Subsequent cardiovascular deterioration prompted further treatment with biologic therapy - the interleukin 6 inhibitor-Tocilizumab (8mgs/kg IV). Although there was a brief period of favourable response, clinical deterioration re-occurred within 48 hours with high grade pyrexia, marked increase in central chest pain and short runs of ventricular tachycardia. Of note, there was a marked rise in ferritin level (3313 µg/L pre-treatment to 60626 µg/L post-treatment) and liver enzymes (AST 435 U/L, ALT 411 U/L,GGT 462 U/L, ALP222U/L).

Tocilizumab was discontinued and the IL-1 inhibitor, Anakinra (100mgs sc/day) was commenced. Within 24 hours, there was a marked clinical improvement with rapid normalisation of blood parameters. Following his sustained favourable response, oral steroids were gradually tapered down. Cardiac MRI, 4 weeks post-presentation, showed contrast enhancement of pericardium and some sub-pericardial left ventricular lateral wall, confirming recent myopericarditis. More than a year later, our patient is stable on Anakinra 100mg (daily) with low dose methotrexate, prednisolone 5mg/day, ramipril and bisoprolol. 18 month follow-up cardiac MRI demonstrated undilated ventricles and no evidence of pericardial constriction.

AOSD can be a difficult diagnosis to make and myocarditis is a rare complication<sup>2,3</sup>. Our patient presented with myopericarditis at disease onset following a rapidly progressive clinical course. This warranted prompt treatment with high dose systemic steroid and biologic therapies. Successful treatment of severe AOSD has been reported with anti-TNF drugs, Tocilizumab and Anakinra<sup>4</sup>. It is difficult to ascertain if this patient’s deterioration with apparent worsening of Ferritin and LFTs after starting Tocilizumab was due to drug (5) or worsening disease activity. The response of our patient to IL-1 blockade but not to IL-6 blockade may suggest that AOSD is a heterogeneous disease driven by a different cytokine mix in different individuals.

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### **A MULTIVARIATE ANALYSIS OF FACTORS AFFECTING DID NOT ATTEND (DNA) RATES IN A PAEDIATRIC EYE CLINIC: DO WEATHER AND SCHOOL HOLIDAYS AFFECT ATTENDANCE AT PAEDIATRIC EYE CLINIC?**

Editor,

Every paediatric ophthalmic unit has myths to explain variable Did Not Attend (DNA) rates; with the commonest related to weather and school holidays. The author has however found little data to support these claims. A study of colorectal clinic attendances did not show a relationship between weather and the DNA rate<sup>1</sup>, neither did a study of genitourinary clinic attendees<sup>2</sup>. With regard to holidays, increased DNA rates amongst Islamic patients during the festival of Ramadan<sup>3</sup> and Jews during Jewish religious holidays in Israel<sup>4</sup> have been demonstrated but no link shown thus far between DNA rate and school holidays amongst the UK population.

The theory most commonly mentioned in paediatric ophthalmology clinics involved an increased DNA rate during school holidays and good weather. With increasing demands on clinic capacity, we determined to find out if there was indeed a predictable relationship between weather, school holidays and the DNA rate.

A database of paediatric ophthalmology clinic attendance for Singleton Hospital Eye Clinic was accessed for the period of January 2013 to June 2014, a total of 357 clinic days and 7322 patient appointments. Of all the published studies to look into this issue, this is so far the largest. School holiday information was provided by Swansea City Council and the weather for the dates in question was accessed via the Met Office website with information obtained from weather station 405687, located in nearby Llanelli. Low average air temperature, low pressure, high windspeed and high average rainfall rates were determined to be factors representing bad weather. Multivariate analysis of the results was performed using ANOVA.

Of the 7322 paediatric eye clinic appointments analysed the DNA rate was found to be 23.74% for new patients (n=1306) and 22.47% for follow ups (n=6016). The presence or absence of school holidays was not found to be statistically significant in predicting DNA rate variability. Weather indicators tended towards higher DNA rates during worse weather, although only increased rainfall rate was found to be statistically significant (p<0.01). This relationship was found to be dose dependent with average rainfall rates of <0.01mm/hr (n=217) resulting in a DNA rate of 22.33%, 0.01–0.04mm/hr (n=76) resulting in a DNA rate of 24.81% and above 0.04mm/hr (n=64) resulting in a DNA rate of 28.93%.

This was the opposite result to that which was predicted, and although it was statistically significant, the R<sup>2</sup> was 0.035 and thus only explained a small portion of DNA rate variability.

This is the first study to demonstrate a relationship between increased rainfall rates and increased DNA rates in paediatric ophthalmology clinics and to disprove a link between school holidays and DNA rates.

Although interesting, it is important to determine what factors influence DNA rates to utilise limited clinic capacity to its fullest. An ideal solution would be to minimise DNA rates as much as possible, but in a public health system such as the NHS, non-attendance is always going to be a fact of life. Very little effort seems to have been made in understanding the causes of missed appointments and in order to make the most of our limited resources, this issue requires further exploration.

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### **NO PAIN NO GAIN? TWO CASES OF SPIN CLASS INDUCED RHABDOMYOLYSIS.**

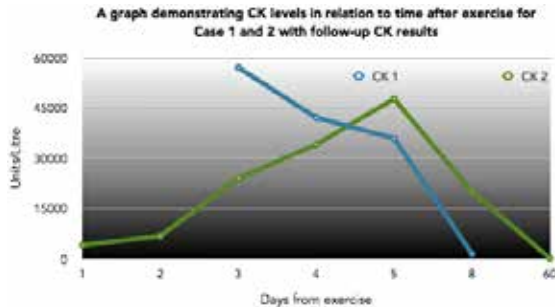
Editor,

We present two near identical cases of exercise naive young women taking up spin classes for the first time and then subsequently being diagnosed with rhabdomyolysis in 2014.

#### **Case Report 1**

A 21 year old female attended a 40 minute spin class 2 days prior to hospital admission. She was 4 months post partum and this was her first return to strenuous exercise. She complained of progressive pain, stiffness and swelling in her legs, particularly on the left side and increased thirst. She was otherwise healthy and was on the combined oral contraceptive pill. On examination there was tenderness on palpation of both legs. The left and right legs measured 49cm and 47cm respectively, at a point 10cm superior to the apex of the patella. Clinical exam was otherwise normal and blood tests

revealed a Creatinine Kinase (CK) level of 57,115 units/litre. White cell count was raised at  $15 \times 10^9/L$  along with a low calcium at 2.08mg/dl. Aspartate aminotransferase and Alanine aminotransferase were raised at 810 U/L and 336 U/L respectively and the remaining bloods were all normal (Figure 1).



Intravenous fluid resuscitation was commenced and after a peak in AST and ALT 2 days after admission the patient improved clinically and was discharged home at day 3.

### Case Report 2

A 17 year old female attended her first spin class lasting 45 minutes the day before admission. She had awoke with severe pain in her right thigh and was unable to straighten her leg. She was also healthy but did not participate in regular exercise. Examination was normal apart from tenderness at the right thigh. When measured at the same landmark to case 1, the patient's right leg measured 47cm and left leg 43cm, again highlighting a discrepancy in size between both legs in keeping with the patient's symptoms. Serum CK was 6745 U/L but other blood tests were normal. The patient was commenced on intravenous fluid resuscitation. The patient noted a worsening of her symptoms, with tenderness in both legs from day 4 and the CK level peaked at a maximum of 47,738 U/L on day 5. At day 6 the patient was well improved clinically and had no evidence of liver or renal impairment (Figure 1).

### Key Points

Normal physical exertion can lead to subclinical elevations in serum CK without complication as documented in studies looking at marathon runners<sup>1</sup> and military training<sup>2</sup>. At the

Risk factors for Massive Rhabdomyolysis following exertion (Table 1) <sup>4</sup>
A physically untrained individual
Concurrent viral illness
Concurrent history of dehydration (including recent alcohol use) or shock
Hot and humid training conditions
Medications (e.g. anticholinergics) or equipment impeding normal heat loss through sweating
Other medications including NSAIDs and Statins
Sickle cell trait
Hypokalaemia

other end of the spectrum, exertional rhabdomyolysis (ER), an established clinical entity with an incidence of 26,000 people in the United States alone<sup>3</sup> can lead to serious complications including electrolyte imbalances, compartment syndrome and acute kidney injury (Table 1). Key diagnostic tests include a CK level five times the upper limit of normal and a positive urine dipstick for blood, in the absence of red blood cells on microscopy, suggesting myoglobinuria

ER may still occur in a physically fit patient and therefore advice to prevent rhabdomyolysis when training includes

- Perform sub-maximal training over a longer period of time instead of short bursts of high intensity and limit exercise in hot conditions
- Consume a high carbohydrate load, hydrate well and space out rest periods to optimise glycogen repletion

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