The UK Medical Students' Association was formed in July 2010 to serve as a centralized organization that could consolidate student resources, unify disparate societies and provide support to students nationwide. It reflects the combined effort of a board of 50 students, doctors, researchers and professors who work tirelessly to support tomorrow's doctors.

On 11 May 2012, the UK Medical Students' Association held its second annual conference at the BT Convention Centre in Liverpool. The event was kindly hosted by and affiliated with the Association of Surgeons of Great Britain and Ireland who themselves run one of the largest surgical congresses in Europe. The conference is the flagship UK Medical Students' Association event in which students are brought together to present their research, network, foster future collaborations and hear from influential speakers. The quality of abstracts this year was exceptional and six have been selected for publication in this issue of *BJHM*.

Prize winners

Karin Duckett – *British Journal of Hospital Medicine* Original Article Prize
Nicola Hudders – AUGIS Best Upper GI Poster Prize
Kristina Lee – ASGBI Best Overall Surgical Poster Prize
Kristijonas Milinis – OnExamination Audit Prize and UK Medical Students' Association Best Overall Medical Poster

Staphylococcus aureus and nursing staffing levels in the neonatal intensive care unit – is there a relationship?

Miss Karin Duckett, Miss Zoe Clayton-Smith, Mr Joe Cox, University of Leeds, Leeds; Dr Lawrence Miall, Dr Kavita Sethi, Leeds Teaching Hospitals, Leeds

Aim: To establish whether there is a correlation between rates of *Staphylococcus aureus* infection and colonization and staffing levels in the Leeds Teaching Hospitals' neonatal intensive care unit.

Methods: A retrospective analysis of meticillin-sensitive *S. aureus* and meticillin-resistant *S. aureus* infections and colonizations and the correlation with staffing levels was undertaken using data from between March 2008 and December 2011. Data collected included:

1. The dates of new *S. aureus* infections and colonizations
2. The number of neonates in the Leeds neonatal intensive care unit per 24-hour period
3. The number of nurses who worked each shift.

The number of nurses was used to create a shift average for each day. The recommended numbers of nurses required to adequately staff the neonatal wards each day were calculated according to the British Association of Perinatal Medicine 2001 standards. A percentage of average nurses per shift in comparison to the advised nurses per shift was then calculated for each day.

A Spearman's rank correlation test was undertaken to assess statistical significance. Monthly and biweekly averages of staffing level percentages were correlated against the total number of infections and colonizations during those periods.

Results: In total 112 *S. aureus* positive cultures occurred in the 1398 days which were studied. A negative correlation was found between *S. aureus* infection and colonization rates and staffing levels when meticillin-resistant *S. aureus* and meticillin-sensitive *S. aureus* were looked at individually and when looked at in combination both on a biweekly and monthly basis.

Results were statistically significant when meticillin-resistant *S. aureus* and meticillin-sensitive *S. aureus* were analysed in combination.

Conclusions: There is a significant association between nursing staffing levels and the rates of *S. aureus* infection and colonization in the Leeds Teaching Hospitals' neonatal intensive care unit.

Relationship between body mass and potential toxicity from therapeutic paracetamol use in patients undergoing liver resection

Miss Kristina Lee, University of Edinburgh, Edinburgh; Professor Steve Wigmore, Royal Infirmary of Edinburgh, Edinburgh

Aim: To investigate the relationship between body mass and functional liver volume with paracetamol-induced hepatotoxicity and relate this to the potential for accidental paracetamol toxicity in patients undergoing hepatic resections. Although considered one of the safest analgesics, paracetamol has a narrow therapeutic window and has potential to cause severe hepatotoxicity. In particular it is thought that those with low body mass and small liver volumes, including patients undergoing liver resections, are at particular risk.

Methods: A retrospective study was conducted involving 100 single time point paracetamol overdoses admitted to the Scottish Liver Transplant Unit, and hepatic dysfunction was correlated with the patient's body mass and estimated liver volume. This relationship was then applied to data from 104 patients undergoing hepatic resections with known liver volumes.

Results: The peak prothrombin time and prothrombin time standardized per gram of paracetamol ingested had a significant negative correlation with body mass and estimated liver volume ($P<0.01$). When related to hepatic resection, a therapeutic dose of paracetamol (4 g) could cause hepatotoxicity in any patient with a liver volume of less than 610 ml.

Conclusions: Low body mass and small functional liver volumes are both risk factors for paracetamol-induced hepatotoxicity. In patients undergoing hepatic resections, small patients or those undergoing large resections are at particular risk and warrant a reduction in paracetamol dose.

Does fracture haemorrhage occur after death?

Miss Louise Christou, Keele Medical School, Keele University, Keele

Aim: To confirm the occurrence of postmortem haemorrhage. Patterns in postmortem haemorrhage were also investigated such as the source of haemorrhage and effects of postmortem interval and fracture type. In medicolegal cases the origin of a fracture is often questioned. The current dogma states that haemorrhage is absent in fractures of postmortem origin; however, literature searches reveal observations of