known allergen and incorrect use of their autoinjector suggests a need to improve education. This project demonstrates that lack of trainee knowledge translates into clinical reality. We believe that improving trainee knowledge is vital in improving the management of anaphylaxis and as well as enabling doctors to educate patients and relatives.

REFERENCES

1. Stewart AG, Ewan PW (1996) Quarterly Journal of Medicine 89 (11): 859–64.
2. Pumphrey RS (2000) Clinical and Experimental Allergy 30(8): 1144–50.
3. National Institute for Health and Clinical Excellence (2011) Anaphylaxis. CG134. London.
4. Advanced Life Support Group. Advanced Paediatric Life Support (APLS), Fifth Edition. Blackwell 2011.

G88 MONITORING OF HEALTHCARE-ASSOCIATED INFECTION OUTBREAKS IN NEONATAL UNITS IN ENGLAND

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Aims Outbreaks of healthcare-associated infection (HCAI) in neonatal units (NNUs) have a significant burden of morbidity and mortality and cause substantial disruption and cost to neonatal networks. The number of NNU HCAI clusters in 2011 in England, their size and causative organisms, were estimated using currently available surveillance tools.

Methods Data derived from voluntary laboratory reporting (LabBase 2), national reference laboratories and a Health Protection Agency outbreak reporting tool (HPZone) were searched to identify potential NNU HCAI clusters. The analysis was limited to the most likely causative organisms (*S. aureus*, *Enterobacter* spp., *E. coli*, *Acinetobacter* spp., *Klebsiella* spp., *Pseudomonas* spp., *Serratia* spp.). Clusters were defined as: (i) any neonatal cluster or outbreak reported in HPZone; (ii) laboratory reports of at least 2 isolates originating from the same hospital and sharing the same VNTR or strain type, with at least one case below the age of 28 days, and with a maximum of 14 days between two cases, and (iii) 2 or more reports of the same infection in neonates in the same hospital in a 14 day period in LabBase. Cross linkage of the 3 data sources was then attempted.

Results 116 neonatal clusters including both colonisation and invasive disease were identified, involving at least 666 neonates. 43.4% of the clusters were MRSA, followed by MSSA (26%), *E.coli* (13%), *Enterobacter* (12%), and *Pseudomonas* (10%). There were on average 9.2 neonatal clusters per month (range 0–14). The median number of babies per cluster was 3 (range 2–80). When only bacteraemia samples were considered, *E.coli* was the most common organism accounting for 57% of clusters. The study likely underestimates the number of clusters due to a lack of standardised reporting. It was not always possible to fully characterise the clusters as formal outbreaks due to data limitations.

Conclusion This analysis identified a high number of HCAI clusters in English NNUs. A standardised approach to the definition, reporting, management and surveillance of NNU HCAI outbreaks is required to enable reliable outbreak detection and appropriate action.

G89 VERY LOW RATES OF SERIOUS INVASIVE BACTERIAL INFECTIONS IDENTIFIED IN A PROSPECTIVE THREE-YEAR SOUTH WEST LONDON AND SURREY POPULATION-BASED SURVEILLANCE PROGRAMME

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Aims Following the introduction of conjugate childhood vaccines and declining trends in meningococcal disease over the past decade, community-acquired serious invasive bacterial infections in children have become less common but hospital admissions continue to rise. The objective of this study was to estimate the incidence of serious culture-confirmed invasive bacterial infections in children within a geographically-defined population over a three-year period.

Methods Blood and cerebrospinal fluid culture (CSF) results for all children aged 1 month to 16 years admitted to five South-West London (SWL) and Surrey hospitals during 2009–11 were obtained at regular intervals from each hospital microbiology department and a web-based questionnaire completed for all children with a positive culture. Hospital-acquired infection was defined as a significant pathogen isolated from a blood/CSF culture taken >48 hours after hospital admission.

Results During 2009–11, 44,118 children had 46,039 admissions to one of the five Hospitals, equivalent to 25.8 admissions per 1,000 children resident in SWL and Surrey. Blood/CSF cultures were obtained during 44.7% (n = 20,578) of admissions and 7.4% (n = 1,530) had a positive culture. Of these, only 571 were defined as a clinically significant serious bacterial infection (SBI), equivalent to 37.3% of positive blood/CSF cultures, 2.8% of all blood/CSF cultures taken and 1.2% of all hospital admissions. The population incidence of SBI in SWL and Surrey was, therefore, 31.9/100,000, with the highest incidence among 1–11 month-olds (172/100,000), followed by 1–4 year-olds (34.3/100,000) and 5–15 year-olds (16.4/100,000). A third of the SBI (208/571, 36.4%), however, were hospital-acquired and, of the community-acquired infections, more than two-thirds (252/363, 69.4%) occurred in children with co-morbidities. The incidence of community-acquired SBI in previously healthy children in SWL and Surrey was, therefore, only 6.2/100,000, with the highest incidence among 1–11 month-olds (33.9/100,000), followed by 1–4 year-olds (6.5/100,000) and 5–15 year-olds (3.2/100,000).

Conclusions Although a SBI was suspected in almost half of all childhood hospital admissions in SWL and Surrey, a significant pathogen was identified in only 3%, mainly among children with pre-existing co-morbidities. Improved targeting of children at very low risk of a SBI at presentation will facilitate increased management of unw.

G90 RANITIDINE TREATMENT IN PRETERM INFANTS AND THE PREVALENCE OF ATOPY AT TWO YEARS OF AGE

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Background Acid suppression treatment has been linked to an increased incidence of allergy in adults. We evaluate how ranitidine, widely used off-label to treat gastro-esophageal reflux symptoms in neonates, may impair peptic digestion, increasing the risk of sensitization to digestion-labile food antigens and thus increasing the prevalence of atopy.

Methods We carried out a retrospective review of preterm infants of between 26 and 37 weeks gestation admitted over a two-year period between April 2008 and March 2010. Those preterm infants treated with the H_2-receptor antagonist ranitidine for more than seven days were identified. A control group of preterm infants who did not receive treatment was selected by matching gestation, birth weight and disease severity using a validated scoring method. We analysed both maternal data (mode of delivery, use of intrapartum antibiotics, prolonged rupture of the membranes, sepsis) and neonatal data (birth weight, gestation, interventions,