Bacterial meningitis is a medical emergency. Prompt recognition and management is required for best outcome. Using several surveillance systems (including the BPSU, national laboratory systems, neonatal infection network and meningitis charities), we showed that the incidence has not declined amongst UK young infants in contrast to other age groups. These young infants also had a rate 70 times those of adults. We identified that nearly half of the infants did not present with fever and that there is no progression of features in the first 24 hours in contrast to what is known about children with meningococcal disease.

Additionally, there was a wide variation in management of infants including empiric antibiotics and the role of listeria has been over-estimated over time leading to wide use of a penicillin based antibiotics including infants over 1 month of age. There was also variation in follow up practice.

The findings of the our studies in addition to literature review forms the basis of our bacterial meningitis management algorithm and etool aimed at trainee doctors to communicate lessons from our research, highlight gaps in recognition and management and promote best practice.

We used anonymised case studies to create modules about recognition of clinical features, decision making, investigations, management and follow-up. We addressed key issues around timely lumbar puncture, appropriate empiric antibiotics and requirement for on-going monitoring.

The etool has been endorsed by the RCPCH and passing a test at the end of it will allow the user to collect CPD points. A pilot roll out received positive feedback with 90% rating it as useful or very useful and 97% saying that they would recommend the etool to a colleague.

We believe that this educational package will contribute to improved outcomes for these vulnerable infants. Parents of survivors show appreciation for our dissemination of the findings to improve the management of future cases. We have demonstrated the huge potential benefit of collaboration between all the surveillance systems especially when dealing with rare diseases. Our study is the pioneer BPSU study to produce a management etool.

18 KAWASAKI DISEASE – USE OF SURVEILLANCE DATA TO IMPROVE MANAGEMENT AND AWARENESS

^{1,2}RMR Tulloh, ¹AM George, ¹R Hughes, ²R McCormack. ¹Bristol Royal Hospital for Children and University of Bristol, Bristol UK; ²Societi Foundation, UK

10.1136/archdischild-2018-rcpch.476

Background Kawasaki disease (KD) is the commonest acquired heart disease in the Western world. A British Paediatric Surveillance Unit (BPSU) study was to ascertain national incidence and demographics of KD compared to the last survey 20 years ago. In May 2016, an NHS England patient safety alert (PSA) was announced. Patients with coronary artery aneurysms (CAA+) were to be alerted to the PSA, recalled and to receive a patient specific protocol. In parallel, we wished to determine if admissions with KD increased recently.

Methods Those with KD were captured by the survey in the UK and Ireland between 02.2013 and 02.2015. BPSU 'orange card' methodology led to anonymous registration by paediatricians who completed a study questionnaire. Ethical and national information governance board approval avoided the need for consent. We also conducted a Freedom of

information (FOI) request in order to gain more knowledge about the current situation in the UK.

Results 553 children with KD satisfied inclusion criteria, boys: girls was 1.4:1, age range 2 months to 15.5 years. Most had complete disease but 119 had incomplete and 42 atypical disease. In those under 1 year of age, 51% were CAA+. Overall, 355 (68%) were Caucasian, but black African and ethnic Asian were over-represented. Peak incidence was January-March. There was an inverse relationship with population density, being most common in rural areas. Median time to treatment for the 24% of children with CAA + was 10.2 days compared to 6.8 days for those without. The FOI showed that incidence has been rising fast, increasing four-fold over the last 10 years. There has been little response to the PSA, with only 11 Trusts intending to inform patients. Many hospital trusts have no guidelines at all.

Conclusions We have made little improvement in managing KD. A marked increase in admissions in the UK coded as KD over the 10 years from 2006–2015 is associated with poor levels of awareness with late diagnosis beyond the recommended 5 days, with frequent CAA and long-term consequences. The survey and FOI will now inform new nationally agreed guidelines and an awareness and educational programme across the UK.

19 LISTERIOSIS IN NEONATES AND INFANTS IN SWITZERLAND AND CANADA

¹S Huang, ²B Abu Raya, ¹M Jost, ³R Bortolussi, ²J Bettinger, ⁴J Grabowski, ⁵T Lacaze, ⁶J Robinson, ⁷K Posfay-Barbe, ¹M Mäusezahl, ²TR Kollmann. ¹Federal Office of Public Health, Department of communicable diseases, Bern, Switzerland; ²Vaccine Evaluation Centre, BC Children's Hospital, Department of Paediatrics, Division of Infectious Diseases, University of British Columbia, Vancouver, Canada; ³Dalhousie University, IWK Health Centre, Halifax, Canada; ⁴Department of Paediatrics, University of Manitoba, Manitoba, Canada; ⁵Division of Neonatology, University of Ottawa, Ottawa, Canada; ⁶University of Alberta, Edmonton, Canada; ⁷University Hospitals of Geneva, Paediatric Infectious Diseases, Geneva, Switzerland

10.1136/archdischild-2018-rcpch.477

Aims Neonates and infants with listeriosis are at high risk of serious disease outcomes, yet in many countries, little information is reported in routine surveillance. This study aims to begin closing this gap.

Methods Clinicians participating in the Swiss Paediatric Surveillance Unit (SPSU) or the Canadian Paediatric Surveillance Program (CPSP) recorded cases of listeriosis in neonates and infants up to the age of 6 months with information on demographic indicators, manifestation, treatment, clinical course, outcome, exposure and maternal and perinatal risk factors collected.

Results In Switzerland four cases occurred over the first 8 months of the study (April to November 2017). Half of the infants had early-onset disease (EOD, defined as onset of symptoms < 7 days of life (DOL)) and the other half had late-onset disease (LOD, defined as onset of symptoms > 7 DOL). EOD is considered to be mother-to-child transmitted, while the pathogenesis of LOD is unclear. All cases manifested with sepsis and meningitis, and one EOD case presented with skin and mucosal lesions as well. All infants made a full recovery with antibiotic treatment with no long-term sequelae noted. Notably, three of the four cases occurred in one hospital during the same week. However, it could not be established