

## British Paediatric Allergy Immunity and Infection Group

### 1113 FEVER IN HIGH-RISK PAEDIATRIC PATIENTS PRESENTING TO EUROPEAN EMERGENCY DEPARTMENTS: THE PERFORM EXPERIENCE

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**Background** In high-risk children (due to underlying illness or immunosuppressive therapy), fever is often the only sign of serious bacterial infection (SBI). Biomarkers commonly used in emergency departments (EDs) do not predict SBI well, therefore most high-risk children are admitted and treated with IV antibiotics, awaiting final microbiological results. We describe current management and aetiology across Europe.

**Objectives** 1. To describe the characteristics of high-risk paediatric patients presenting to A/E with febrile illness

2. To assess the current aetiology of febrile illness in the high-risk population

3. To assess current management and outcome of febrile illness in the high-risk paediatric population

**Methods** High-risk children, presenting with fever/suspected infection and requiring blood investigations, were prospectively recruited, upon informed consent, in the Personalised Risk assessment in Febrile illness to Optimise Real-life Management across the European Union (PERFORM) study across 16 European centres between June 2016 and June 2019. Demographic, presenting features, microbiological, treatment, and outcome data were collected. Patients were assigned final phenotype diagnoses as per PERFORM protocol.

**Results** 529 children were recruited of whom 56% had malignancies.

92.5% (n=490) had blood cultures taken with a positive yield of 16.1% (n=79), including 14 contaminants. 27.8% (n=146) had bacterial phenotypes, 22.4% (n=116) viral, and 31.7% (n=161) were unknown viral/bacterial. Only 12.4% (n=65) were definite bacterial and 9.70% (n=51) definite viral infections. In ED, only ill appearance was associated with bacterial infection (p<0.001); vital signs and neutropenia were not. 82% (n=432) had antimicrobials started on admission, and were treated for median 7 days (IQR 3–10 days).

Mortality was 1.7%, and 85.7% made full recovery, without difference between bacterial or viral phenotypes. Bacterial phenotype was associated with PICU admission (p=0.014).

**Conclusions** Fever remains a major challenge in high-risk children. Ill appearance was the only feature in ED associated with bacterial phenotypes. The low yield of microbiological diagnostics supports the urgent need for new biomarkers.

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## Association of Paediatric Emergency Medicine

### 1115 PIMS -TS AN ARTFUL MASQUERADER – VARIATION IN THE INCIDENCE AND CHARACTERISTICS IN THE SECOND WAVE OF THE COVID-19 PANDEMIC

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**Background** The overall risk of PIMS-TS in children in the UK is considered low. In recent weeks, however, the numbers of cases have increased substantially. There has been a clustering of cases in February 2020 in this DGHS with a multi-ethnic population. About 45,000 children present to PED in a typical year. The rise and fall of COVID-19 in the first wave mirrored PIMS -TS cases and a similar pattern was noted in the second wave although the incidence of PIMS -TS shows a marked increase.

**Objectives** The focus of this descriptive study was to look at the clinical characteristics of children presenting with PIMS -TS in the second wave of the pandemic to a district general hospital and to highlight the clustering of cases in 2021.

**Methods** Children confirmed to have PIMS-TS were identified, case notes, investigations and treatment were reviewed.

**Results** A cluster of 13 children were diagnosed with PIMS -TS from 17th of January to the 28th of February. One child was diagnosed to have Kawasaki disease.

6 children were diagnosed in the first two weeks of February 2021. The median age of patients was 6.2 years. In the first wave of the pandemic children of Afro Caribbean origin represented a significant proportion of children with PIMS-TS. In 2021, 4 children with PIMS- TS were Asian, 4 children were White and 5 were Afro Caribbean in origin. All children presented with fever of more than 3 days. 5 children presented with partial Kawasaki features, 9 presented with shock, 4 presented with gastrointestinal symptoms and rash, one with features suggestive of meningitis later diagnosed to have sigmoid sinus thrombosis. None of these children had co-morbidities. Maximum CRP ranged from 90 to 245. 9 children were transferred to PICU and all had good outcomes. Serology for COVID -19 antibodies was positive in 10 children and COVID -19 NPA -RT PCR was positive in 2.

**Conclusions** It is likely that this clustering of cases of PIMS-TS is specific to a certain geographical area. The ethnicity of the population of children with PIMS -TS shows a difference compared to the first wave of the pandemic. There was a high incidence of COVID -19 in December 2020 in adult ED, there was also a higher incidence of confirmed SARS-CoV-2 cases in children. PIMS -TS which is a dysregulated response to SARS-CoV-2 could be a late response to increased prevalence and infectivity of SARS-CoV-2 in the second wave. The