**WS18.5** MRSA in cystic fibrosis: potential for transmission within CF centres?

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**Introduction:** Increased healthcare utilisation in CF patients may be associated with MRSA acquisition. This study aimed to determine (i) the similarity of MRSA isolated from CF and non-CF patients in two centres [University of Washington (UW) and Royal Belfast Hospital for Sick Children (RBHSC)], and (ii) the evidence for shared patient clones, which may indicate transmission.

**Methods:** MRSA isolates from patients in Seattle (n=71 from 23 paediatric CF patients; n=20 from non-CF MRSA colonized patients; n=10 from non-CF respiratory patients; n=22 from non-CF non-respiratory patients) and Belfast (n=24 from CF paediatric isolates; n=11 non-CF paediatric patients; n=17 non-CF colonized patients) were compared using Pulsed Field Gel Electrophoresis (PFGE). Isolates were considered similar if they possessed >60% homology.

**Results:** Both UW and RBHSC CF and non-CF MRSA isolates formed closely related PFGE groups, regardless of disease background (RBHSC: >70%, UW: >67%). In general, isolates were not regarded as being similar in between-centre comparisons (44%). Sequential isolates from individual UW patients shared a high degree of homology (>90%).

**Conclusions:** CF-MRSA strains were similar to endemic strains in circulation among non-CF patients in the local healthcare setting. The clonal nature of infection observed both within-centre, and in UW sequential paediatric isolates, suggests repeated acquisition from an MRSA reservoir, or more likely, persistence within the patient. This study supports a role for rigorous infection control and development of appropriate eradication strategies to prevent transmission and subsequent colonization/infection of CF patients.

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**WS18.6** Outbreak of *Burkholderia contaminans* infection in children with cystic fibrosis: short term lung function and nutritional outcome

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*Burkholderia cepacia* is a significant cause of morbidity in CF. The prevalence has increased from 2% in 2003 to 20% in 2005 in our center. The outbreak was due to *Burkholderia contaminans* (Bc), a recently described species, but there are no clinical data published about the impact in CF.

**Objective:** To assess the impact of Bc on pulmonary and nutritional status.

**Methods:** Observational retrospective study. CF patients with Bc (2 positive sputum culture in BCSA medium over 6 months), confirmed by *recA* gen and as *contaminans* species by PCR. We assess data for lung function: % of predicted FEV1 and FVC and nutritional status: z-Body Mass Index (zBMI), weight for age (zW/A) and height for age (zH/A), evaluated 12 months before the first isolation (PRE) and 12 months after the isolation (POST). Statistical analysis: paired t test.

**Results:** 49 patients included. Median age at isolation: 7.9 years; 42% coinfected with *Pseudomonas aeruginosa* at isolation (Bc+Ps). Mean PRE FEV1 was 78% and POST FEV1 was 59% (p = 0.012). Mean PRE zBMI: −0.9 and POST zBMI: −1.1 (p = 0.2); mean PRE zW/A: −1.19 and POST: −1.39 (p = 0.13) and PRE zH/A: −0.68 and POST: −0.8 (p = 0.3). Those coinfected with *Pseudomonas* have lower FEV1, zBMI, zW/A, zH/A, being the last two statistically significant compared with those infected only with Bc. FEV1 and zH/A were statistically significant in Bc+Ps when PRE period were compared with POST, but not in *Pseudomonas* negative group.

**Conclusions:** CF patients have lower values of lung function and nutritional status after Bc infection. Those coinfected with *Pseudomonas* have the lowest values of FEV1, zW/A and zH/A. The follow up will determine the outcome of this infection.