P1300
Poster Session V
Infections in transplant recipients

CLINICAL AND MOLECULAR EPIDEMIOLOGIC CHARACTERIZATION OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) INFECTIONS OCCURRING EARLY AFTER LUNG TRANSPLANT

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OBJECTIVES. The epidemiology of MRSA infections among lung transplant patients (LTx patients) is poorly understood. A previous study showed that post-LTx infections were due to hospital-acquired (HA) strains. Our objective was to define the clinical manifestations and molecular epidemiology of MRSA infections occuring within the first 90 days of LTx at our center.

METHODS. Retrospective review of MRSA infections in the first 90 days after LTx at UPMC between 2008 and 2010. Isolates were characterized by PFGE, Staphylococcal Cassette Chromosome mec (SCC*mec*) and*spa*typing, and detection of Panton-Valentine leukocidin (PVL).

RESULTS. The incidence of MRSA infections was 18%. 75 isolates from 17 unique patients were studied (median: 3 isolates/patient). Infections were caused most commonly by the typical HA genotype SCC*mec* type II (n=12 patients, *spa* t002 most common), and the typical community acquired (CA) genotype SCC*mec* type IV,*spa*t008 (n=5 patients). Median time from LTx to *SCCmec* type II and IV infections was 18 and 16 days, respectively. 7 patients were colonized with MRSA prior to LTx (5 SCC*mec* type II, 2 SCC*mec* type IV), each of whom developed infections by the colonizing strain. Pneumonia, tracheobronchitis, and endobronchial infection were the most common infections caused by either SCC*mec* type II or SCC*mec* IV, but patients infected with type IV were more likely to have multiple sites of infection (p=0.02). Abscesses (1 lung, 1 breast, 1 parotid) developed in 3 of 5 patients infected with type IV. 2 patients (1 SCC*mec* type II, 1 SCC*mec* type IV) developed complete airway dehiscence. No patients died within 90 days of infection. Recurrent infections were caused by the same strains causing initial infections post-LTx, demonstrating the difficulty in eradicating both HA- and CA-MRSA once established. Strains were PVL(+) in 4 of 5 LTx patients with SCC*mec* type IV infections. All SCC*mec*type II isolates were PVL(-).

CONCLUSIONS. SCC*mec* type II, *spa* t002 (typical HA) and SCC*mec* type IV, *spa* t008 (typical CA) MRSA genotypes were both common causes of infection in the first 90 days after LTx, consistent with circulation between health care and community settings among candidates. Post-transplant infections were caused by strains identified pre-transplant, suggesting that systematic decolonization protocols may be effective at preventing disease. Multiple sites of infection and abscesses were more common with SCC*mec* type IV (CA), but otherwise types of infection and clinical courses were similar for CA- and HA-strains.