## P005 Antimicrobial peptides and pulmonary infection in patients after lung transplant

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Pulmonary infections with gram-negative bacteria such as *Pseudomonas aeruginosa* (PA) are common causes of morbidity in lung transplant recipients. We hypothesised that immunosuppressive drugs used to protect against allograft rejection may predispose recipients to such infections early after transplant. We assesssed elements of the pulmonary innate immune response in recipients with and without proven pulmonary infection. 70 lung transplant recipients underwent bronchoalveolar lavage (BAL) with formal microbiological culture for bacteria, fungi and viruses as part of standard post-transplant surveillance. 16 of the recipients had positive microbial cultures, 12 had PA isolated, 4 had other organisms *Aspergillus fumigatus*(2), *Stenotrophomonas maltophilia*(1) and *Staph aureus*(1). In the other 54, no pathogens were isolated. The antimicrobial peptides (hCAP18/LL-37, HBD-2 and HNP 1-3), the anti-proteases (SLPI and Elafin) and Interleukin-8 were measured in the acellular fraction of BAL using established sandwich ELISAs. The presence of infection was associated with significantly elevated levels of hCAP18/LL-37 (p=<0.001), HBD-2 (p=0.004), HNP1-3 (p=0.007), and IL-8 p=(0.001). Elafin showed a trend towards elevation in patients with infection (p=0.070) but there was no difference in levels of SLPI between groups. In conclusion, infection in the airways of lung transplant recipients is associated with increased expression of key elements of the innate immune response despite powerful immunosuppression.