

**P028** CD14 impairs host defence in sepsis caused by *Burkholderia pseudomallei*

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Background. CD14 is a pattern recognition receptor that can facilitate the presentation of bacterial components to either TLR2 or TLR4. Melioidosis is a severe infection caused by the Gram-negative bacterium *Burkholderia pseudomallei* that is endemic in SE-Asia. We have recently shown that TLR2 – and not TLR4 - detects the LPS of *B.pseudomallei* and only TLR2 impacts on the immune-response of the intact host *in vivo*. We now aimed to characterize the expression and function of CD14 in melioidosis. Methods & Results. We inoculated CD14<sup>-/-</sup> and wildtype (WT) mice intranasally with *B.pseudomallei* and found that shortly after infection WT-mice displayed a gradual rise in CD14 mRNA and soluble-CD14 in both the pulmonary and systemic compartment. Strikingly, CD14<sup>-/-</sup> mice demonstrated a strongly reduced lethality, which was accompanied by significant **decreased bacterial** loads, reduced lung inflammation and less distant organ injury. Administration of recombinant soluble-CD14 to CD14<sup>-/-</sup> mice reverses their phenotype into that of a WT-mouse. Conclusion. CD14 is upregulated during melioidosis and plays a detrimental role in the host response against *B.pseudomallei* probably due to collaboration with TLR2. Inhibition of CD14 may be a novel treatment strategy in melioidosis.