

Title: Prediction of disease outcome in an acute lung infection in pigs: promising role for IL-6?

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The objective of this study was to look at serum concentrations of several cytokines and acute phase proteins at regular time-points before and after infection, and based on the dynamics of these markers, to identify possible marker(s) for prediction of disease outcome in an acute and sometimes fatal lung infection in pigs.

In this study, after socialization, acclimatization and catheterization, 13 pigs were inoculated endobronchially with 5×10^6 CFU of *Actinobacillus pleuropneumoniae*. Blood samples and clinical scores were obtained every 2 hours from 4 hours before infection until 48 hours after infection or until death/euthanasia. In these samples, serum concentrations of IL-6, IL-8, IL-10, TNF- α , Pig MAP, SAA, CRP and Haptoglobin were determined with standard ELISA methods.

After 48 hours, 5 pigs survived and 8 pigs died within 8-34 hours after inoculation. Survival analysis was used to evaluate whether the time-varying IL-6 serum concentration was predictive for the status of the animal (acute versus non acute). IL-6 was predictive for the status of the animal 2 hours later, with high IL-6 serum concentrations corresponding to higher risk (hazard ratio=1.37; P=0.008).

Out of these results, we can conclude that IL-6 could be a predictive marker for disease outcome, looking at the dynamics of this cytokine in pig serum.