The virulence variability of different Acinetobacter baumannii strains in experimental pneumonia

Titre	The virulence variability of different Acinetobacter baumannii strains in experimental pneumonia
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Mots-clés	Acinetobacter baumannii [10], Mouse model [11], Pneumonia [12], Virulence [13]
Résumé en anglais	Our objective was to compare the virulence of 5 strains of Acinetobacter baumannii by using a mouse model of pneumonia. Methods Six-week old female C3H/HeN mice were used. The pneumonia was inducted by intra-tracheal inoculation of 5. 106 bacteria. Spontaneous outcome was evaluated by mortality, mice weight variations, and a clinical score. Bacterial counts in lungs, spleen and blood, and inflammatory response in lungs (dosages of tumor necrosis factor-alpha and macrophage inflammatory protein-2) were also measured. Lastly, a histological examination of lungs was performed for 3 strains, giving a histological score. Results Global mortality varied from 13% to 79% ($P < 10-4$). Bacterial counts in lungs within the 4 days following inoculation varied significantly according to different strains. The evolution curves of bacterial counts were also different. There was a significant correlation between the clinical score and mortality ($P < 0.05$) but not between bacterial counts in lungs and mortality. The increase of pro-inflammatory mediator production in lungs and the histological score also varied according to strains. Conclusions These results demonstrate the variability of the virulence between strains, and suggest that bacterial proliferation is not the only virulence factor responsible for the pathogenesis in A. baumannii pneumonia.
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