INTRODUCTION

- The formation of biofilm in Staphylococcus aureus is based on the production of a polymer-based matrix where cells are embedded. The biofilm matrix impedes the access of immune defences and antibiotic penetrance, and purportedly may constitute giving it an important virulence factor of S. aureus.

- However, we were unable to find data regarding the correlation between S. aureus biofilm production and the clinical outcome in patients with bacteraemia.

- Our main objective was to analyze whether there was an association between biomass production (by crystal violet, CV) or metabolic activity (by XTT) and poor outcome in patients with S. aureus bacteraemia.

MATERIAL AND METHODS

Patients with bacteraemia

- We considered poor outcome in patients with S. aureus bacteraemia the fulfilment of one or more of the following conditions:
  - death
  - infective endocarditis
  - persistent bacteraemia (persistence of positive blood cultures within 6 days)
  - recurrent bacteraemia (positive blood cultures >7 days)

RESULTS

- The distribution of biomass production and metabolic activity is shown in figure 1.

- Poor outcome occurred in 29/104 (27.9%) of the S. aureus bacteraemic episodes.

- We did not find statistically significant differences between neither biomass production nor metabolic activity and severe outcome (table 1).

CONCLUSIONS

- Biofilm production, assessed by crystal violet or by XTT, is not a predictor of poor outcome in patients with S. aureus bacteraemia.

- Future studies are needed using different criteria in the classification of biofilm production according to the cut-offs and including more patients.