Introduction:
The use of biomarkers in sepsis is useful for early diagnosis and prognosis. The desired marker should be sensitive, specific, fast and accurate. Procalcitonin (PCT) measurement is approved by the FDA even its efficacy is still under question. The determination of alfatorquetenovirus (TTV) could be a useful marker.

Methods:
We analyzed 55 samples from 23 patients admitted to ICU with clinical suspicion of sepsis. Analytical data of C-reactive protein (CRP), neutrophils and procalcitonin were collected. The SOFA and APACHE II scales were calculated and patients stratified according to these values in good and poor prognosis.
TTV quantitative determination was carried by using a quantitative CRP². We calculated area under the curve (AUC) of TTV plasma levels as a function of time.
The statistical analysis involved U-Mann-Whitney and Spearman test, using Chi² for qualitative variables.

Results:
Results showed a not significant (NS) inverse relationship between the TTV AUC and the patient proinflammatory level. A tendency (NS) was found between poor prognosis and the PCT median values and CRP being higher in the poor prognosis group.
A trend showed lower TTV DNA count related to worse prognosis.
An inverse relationship was found between PCT and CRP values and the TTV copies/ml plasma, NS correlation in the case of PCT.
There was a clear trend between the neutrophils’ expansion and the regression line slope, obtained between TTV loads in the first two study steps.
These results indicate a possible relationship between TTV DNA count and immunological alteration.

Conclusion:
The TTV quantitative determination could be useful as a proinflammatory marker in sepsis, with some benefits: low cost, easy determination and good correlation with immune system functionalit.
It will be necessary to perform a larger study to check our hypothesis and to establish a TTV level threshold that may allow to anticipate the disease prognosis.

References: