Introduction:
The use of parenteral glutamine is studied in number of RCTs and systemic reviews (Heyland D 2013, Wischmeyer P 2014), while there is a lack of data about the use of enteral glutamine. The aim of our study was to determine the effect of enteral glutamine supplementation on the incidence of hospital infections and death.

Methods:
Design: retrospective cohort study. Inclusion criteria: males and females > 18 years of age, TBSA burned 20%-80%, nasogastric intubation. Patients were divided in two groups: glutamine group (n=25) and control group (n=17). In the study group enteral glutamine was administered to the patients for 5 days after admission to the ICU. Baseline characteristics were well balanced between groups. No significant difference was found between groups on patients’ age, sex, TBSA, need for mechanical ventilation and rate of inhalation injury. Primary outcome was all-cause mortality. Secondary outcome was rate of nosocomial infections (skin and skin structure infections (SSSI), lower respiratory tract infections, urinary tract infections, bacteremia, sepsis).

Results:
Mortality rate was 6 (24%) and 7 (41%) in the glutamine group and the control group, respectively, p=0.40. Rate of nosocomial infections was 14 (56%) in the glutamine group and 11 (65%) in the control group, respectively, p=0.81. Rates of SSSI, lower respiratory tract infections, urinary tract infections and sepsis did not differ significantly between the groups: 11 (44%) and 6 (35%), p=0.81; 6 (24%) and 7 (41%), p=0.40; 1 (4%) and 1 (6%), p=1.00; 6(24%) and 5 (29%), p=0.97, respectively. Rate of bacteremia was significantly different between the groups: 1 (4%) in the glutamine group and 5 (29%) in the control group, p=0.03. Retrospective design is a significant limitation of our study.

Conclusion:
Enteral glutamine supplementation may reduce the incidence of bacteremia in burn patients, but has no influence on the incidence of other nosocomial infections and mortality. Further large clinical trials are needed.