Introduction:
Nitrogen Balance (NB) may be an important tool in the nutritional management of critically ill patients. Cancer patients present a special challenge regarding nutrition, due to its peculiar characteristics related to neoplasia and adjuvant treatments. Objectives: To evaluate NB in patients with solid cancer in the postoperative period in the ICU, analyzing the correlation between NB and the mortality outcome in the ICU.

Methods:
Retrospective cohort study. We evaluated adult patients (> 18 years) admitted to the ICUs of two different hospitals, with diagnosis of current cancer in postoperative period (elective or emergency surgeries). Patients were excluded if the diagnosis of cancer was not confirmed. NB (measured through analysis of dietary protein intake subtracted from 24-hour urinary urea plus an estimate of non-urinary losses) was calculated on the 1st, 3rd and 5th ICU day. NB was measured only while the patient was in the ICU.

Results:
During the study period, 125 patients were included (mean age 58.1, mean APACHE 17.4, 65.6% male). Admission APACHE II and abdominal-site surgery were predictors of mortality. The NB of all patients was negative on the 1st ICU day. In the patients who survived, NB of the 3rd and 5th day remained stable (negative), whereas in patients who died NB was more positive (figure 1). There was no difference in the amount of protein ingested on the 1st day between survivors and deceased patients.

Conclusion:
Among adult patients with solid cancer in the postoperative period in the ICU, NB was persistently negative in the survivors between 1st and 5th ICU day, but among the patients who died NB tended to be more positive on the 3rd day. NB monitoring could allow a more adequate individualization of nutritional management in this group of patients.
Figure 1: Nitrogen Balance in 1st, 3rd and 5th ICU day.