Introduction:
Abdominal ischemia occurs in 9% of patients submitted to aortic aneurysm repair. Its early diagnosis requires an elevated index of suspicion, particularly in more severe patients. We hypothesized that earlier increase and higher levels of C-reactive protein (CRP) may help to predict intra-abdominal ischemia.

Methods:
We performed a retrospective study of patients admitted to the intensive care department (ICD) after abdominal aorta aneurism surgery. We included all patients admitted during a two-year period, that survived for more than 48 hours. Primary outcome was splanchnic ischemia assessed by abdominal CT-scan. We also evaluated the presence of bacteremia, abdominal compartment syndrome and ICD mortality. Association between inflammatory parameters and ischemia was evaluated by multivariate logistic regression.

Results:
We included 88 patients (47 elective and 41 emergent) admitted to the ICD after major abdominal vascular surgery. Mean age was 71.0 ± 8.6 and 90% were male. Mean SAPS II value was 44.4 ± 20.6 and admission SOFA 6.7 ± 4.5. CRP levels increased after surgery with peak level at day 3 (26.01 ± 11.3 mg/dL). Suspicion of systemic infection occurred in 19 patients, but none of them had positive blood cultures. Mesenteric ischemia was confirmed in 20 patients (23%); at day 1, there was a higher CRP value in patients that developed ischemia (13.5±8.8 mg/dL in ischemia group vs 8.1 ±5.1 mg/dL in non ischemia; $p=0.004$), as well as in day 3 ($p=0.003$). These differences remained after adjustment for patient severity, with an OR=1.1 (1.0-1.1; $p=0.04$). Of note, there were no association of CRP levels with ICD mortality.

Conclusion:
In this retrospective study, patients submitted to abdominal aortic surgery who developed mesenteric ischemia had an earlier and a higher increase in CRP levels. Defining an algorithm for systemic inflammatory biomarkers levels could be useful for early identification of ischemic complications, allowing for earlier diagnosis and treatment.