**Introduction**: Literature data so far indicates that both open and endovascular repair (EVAR) for ruptured abdominal aortic aneurysm (rAAA) are associated with increased mortality when complicated with abdominal compartment syndrome (ACS). Therefore, questions arise regarding primary hematoma evacuation after endovascular treatment.

**Case report**: A 65-year-old male patient with a known history of arterial hypertension was transferred to our emergency department due to acute abdominal and lower back pain. The patient underwent a computed tomography angiography (CTA) showing a rAAA of 7cm in diameter as well as an extended retroperitoneal hematoma. The patient underwent an emergency EVAR and he was transferred to intensive care unit (ICU) for observation. On the first postoperative day, the patient developed acute ACS and he underwent an emergency laparotomy. Intraoperatively, the retroperitoneal hematoma was evacuated and a rupture of the inferior vena cava wall was also detected that was primarily sutured. The patient remained in ICU where he presented acute renal failure initially, and total colon ischemia 30 days later. Therefore, he underwent total colectomy and ileostomy placement. The patient died after 45 days due to multiple organ failure.

**Conclusions**: ACS after EVAR is associated with increased morbidity and mortality, and prompt laparotomy is indicated. Patients with rAAA and an extended retroperitoneal hematoma on CTA are considered of high risk for developing ACS and therefore, a higher sense of suspicion is imperative.