

Physician - Aortic (Abdominal) Pathologies and Surgery/Endovascular Interventions

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Could Hybrid Treatments Be A Solution for Traumatic Abdominal Aortic Pseudoaneurysms?

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Traumatic pseudoaneurysm of the abdominal aorta is a life-threatening pathology that often presents after trauma. In suprarenal location, the classical approach makes the operation more difficult due to the difficulty of accessing the abdominal aorta due to the complex anatomy and the high risk of bleeding. In this case report, we presented a hybrid surgery approach in a patient with abdominal aortic pseudoaneurysm. A 20-year-old male patient was urgently operated due to hemodynamic instability after a gunshot wound to the abdomen. The patient was evaluated with computed tomography angiography on the 14th postoperative day, which revealed a 77×51×64 mm pseudoaneurysm originating from the abdominal aorta at the level of the celiac trunk. Consequently, the patient was taken into reoperation. The visceral arteries and the right common iliac artery were explored and released. A bypass was performed from the right common iliac artery to the celiac trunk with a Dacron graft. Afterward, a bypass was performed from the celiac trunk graft to the superior mesenteric artery with a Dacron graft. Following the debranching procedure, the celiac trunk and superior mesenteric artery were ligated. Then, a 20×20×82 mm endovascular graft was applied to the suprarenal region, and the pseudoaneurysm sac was closed. No endoleak was detected. Bilateral renal arteries and debranching grafts were patent. After two days, the patient was taken to the ward. It was observed that the pseudoaneurysm sac was thrombosed, and the debranching grafts were patent. The patient was discharged on the 10th postoperative day. Abdominal aortic pseudoaneurysms are a vital pathology that can result in death even before symptoms appear. In case of doubt, the diagnosis should be made with advanced imaging methods and the optimal treatment protocol specific to the patient should be determined. It should be kept in mind that hybrid treatment, including endovascular aortic stenting and debranching, may be the solution in high-risk cases.

Keywords: Aortic pseudoaneurysm, debranching, endovascular, hybrid treatment, traumatic injury.

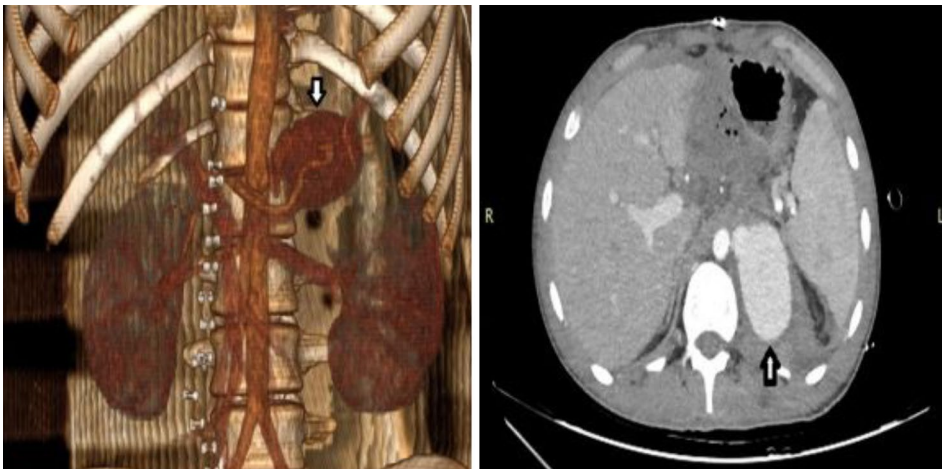


Figure 1. Preoperative computed tomography angiography images of traumatic abdominal aortic pseudoaneurysm at the level of celiac trunk. Tip of the white arrow shows aortic pseudoaneurysm.



Figure 2. Intraoperative angiographic images of the hybrid procedure. (a) angiographic image of aortic pseudoaneurysm after visceral debranching; (b) angiographic image of successful hybrid procedure. Tip of the white arrow shows patent debranching grafts. Tip of the black arrow shows endovascular aortic stent graft with no endoleak.

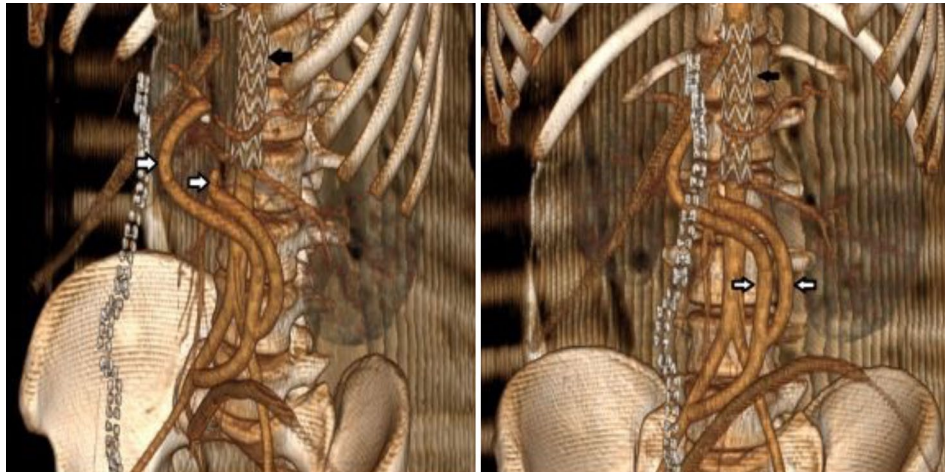


Figure 3. Postoperative computed tomography angiography images of the hybrid procedure. Tip of the white arrow shows patent debranching grafts. Tip of the black arrow shows endovascular aortic stent graft with no endoleak.