



## VÍDEOS

### THE BRAVE SURGEONS AND THE EVIL FIBROSIS

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**Introduction:** We report a case of acute bleeding through a Bricker's derivation ostomy after removal of a nitinol stent in the left ureter.

**Material and methods:** A 63-year-old male patient, smoker, with lumbar disc herniation, previous meniscus surgery, and radical cystectomy (because of a urinary bladder urothelial carcinoma) underwent elective stenting of a left ureteral stenosis in 2015. Three years later, the stent was removed due to suspected bowel erosion with the nitinol struts. Immediately, there was a severe arterial bleeding from the ostomy.

**Results:** Under general anesthesia a right femoral puncture was performed. The angiography showed an active bleeding from the left common iliac artery (probably due to a rupture of the arterial wall because of fibrosis in the ureteral stent). A left common femoral artery puncture was done. A 10 mm Viabahn was implanted, but it was released inside the sheath, and it was placed in the distal external iliac and common femoral artery after trying to remove it. A new 13 mm Viabahn was correctly implanted, and the bleeding stopped. An open femoral access was required to retrieve the previous Viabahn. The external iliac artery was damaged after that, so a new 8 mm Viabahn was placed in the external iliac artery and a Dacron interposition in the common femoral artery was performed to restore flow. However, the patient did not recover a good femoral pulse, so a femoro-femoral bypass was finally performed.

**Conclusions:** Arterial wall damage after ureteral stent removal is a very rare cause of bleeding. Such cases can be treated by endovascular techniques, but complications may arise, and hybrid procedures may be required.

### BRANCH ILÍACOS CON TÉCNICA DE FUSIÓN DE IMÁGENES CON UN ARCO EN C PORTÁTIL

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**Introducción:** La técnica de fusión de imágenes es una tecnología novedosa que facilita la navegación endovascular en las intervenciones, disponible de forma estándar en salas híbridas. Actualmente existe un sistema de angionavegación compatible con arco en C portátil, que podría permitir realizar los procedimientos con seguridad utilizando menos contraste y menos tiempos de escopia. Presentamos 2 casos intervenidos con dicha tecnología.

**Material y métodos:** Revisión retrospectiva de informes clínicos, radiológicos y de laboratorio de los casos intervenidos con arco en C portátil y técnica de fusión de imagen (Endonaut®).

**Resultados:** En diciembre del 2018 se intervinieron dos pacientes en un quirófano convencional con un arco en C portátil antiguo (OEC 9900 Elite, General Electric®) conectado a un sistema de angionavegación (Endonaut®). Se cargaron ambos estudios de TAC preoperatoriamente y en ambos se logró realizar durante el procedimiento la fusión con éxito. Durante el procedimiento se contó con la colaboración de

un técnico. Además, las cirujanas disponían de una pantalla táctil de fácil manejo que permitió obtener un mejor rendimiento del software conforme se habituaron a su manejo.

- *Caso 1:* 63 años, diagnosticado de AAA (40 mm) y aneurisma de arteria ilíaca común derecho (AICD) (36,3 mm), con arteria hipogástrica izquierda obstruida. Se implanta endoprótesis aortobiilaca de Jotec® con *branch* ilíaco derecho. *Stent* E-ventus en arteria hipogástrica derecha y embolización de arteria glútea con coils. Duración de la intervención 405 minutos.
- *Caso 2:* 58 años, diagnosticado de aneurisma sacular de AICD de 40 mm, implantándose endoprótesis aortobiiliaca de Jotec® con *branch* ilíaco y *stent* E-ventus en ilíaca externa e hipogástrica. Duración de la intervención 345 minutos.

**Conclusiones:** La técnica de fusión de imágenes es factible en los quirófanos convencionales con un arco en C portátil y podría ser una alternativa útil en los centros que no disponen de salas híbridas, ya que mejora el rendimiento de estos equipos.

### 3D PRINT: A NEW TOOL FOR THE COMPLEX AORTIC REPAIR

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**Introduction:** Rupture of the visceral aorta is a life-threatening situation with a poor prognosis. Fenestrated Endovascular Aortic Repair (FEVAR) could be an option but requires about 30 days to get the customized graft from the industry.

Treatment using a Physician Modified EndoGraft (PMEG) has been described but requires high accuracy for the fenestrations design.

We present the first case in Spain of a PMEG that has been created using a 3D printed aortic template.

**Material and methods:** A 56-years-old male arrived to our hospital complaining sudden back pain. CT

scan showed contained rupture in the posterior wall of the visceral aorta.

Despite his age, open repair was considered a high-risk option, so we planned an endovascular repair.

Using the CT scan, we got the information of his aortic anatomy and we printed a 1:1 scale replica of his aorta. It was printed using biocompatible resin, hollow and with holes according the ostium of the visceral vessels, so it could be used as aortic template for the customizing process.

Then it was sterilized. The whole process took 10 hours.

**Results:** Once in the operating room, an Endurant abdominal tube (Medtronic, Santa Rosa, CA, USA) was deployed inside the template. Using the holes in the template we created fenestrations for the superior mesenteric artery and renal arteries also.

The template was removed and the endograft was re-sheathed.

The PMEG was deployed just below the celiac trunk. The procedure was completed using standard FEVAR technique.

CT scan after procedure showed good result and the patient was discharged on fifth postoperative day.

**Conclusions:** We consider that 3D printed aortic templates make easier the process of customization and give an excellent accuracy in the fenestrations design. It can be a useful tool for urgent and complex aortic repair that can't wait to a customized endograft from the industry.

### ENDOVASCULAR MANAGEMENT OF ISOLATED TRAUMATIC SUPERIOR MESENTERIC ARTERY PSEUDOANEURYSM

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**Introduction:** The aim is to present the technique of successful management of a superior mesenteric artery (SMA) pseudoaneurysm by a purely endovascular approach.

**Material and methods:** A 75-year-old man attended the Emergency Department in December of 2018 with sudden onset of epigastric pain after a traffic accident. Physical examination showed mild epigastric tenderness with no peritoneal signs.

**Results:** A computed tomography scan showed a superior mesenteric artery (SMA) pseudoaneurysm 3.2 cm × 3 cm (length × width). It contained circumferential mural thrombus, measuring 2.3 cm maximum thickness. Endovascular stenting of the SMA and embolization of the false lumen was the selected

treatment after the failed attempt of open surgical resection in his hospital of origin.

**Conclusions:** Abdominal visceral artery aneurysm is uncommon with an incidence of 0.01-2%, with 8% of them arising from the SMA. As in this case, most patients with SMA dissection present with sudden onset of abdominal pain because of intestinal ischemia and/or the dissection itself. Endovascular treatment, with embolization of the false lumen, is less invasive and offers a quicker recovery than open or hybrid approach.