NewsLetter
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DOMINUS
Stent Graft Endoprosthesis

Treatment of Infrarenal Aorta Aneurysm and Bilateral Iliacs: Case Report

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The infrarenal aorta aneurysm correction, associated to bilateral internal iliac artery aneurysms, has been challenging for endovascular treatment, since the embolization of both internal iliac arteries can lead to major complications[1,2]. Several techniques have been described for the preservation of at least one of them[2]. Among the techniques described, the use of a branched endoprosthesis for at least one of them has been established, with good results[3,4]. This study has the objective of describing the first case of preserving the internal iliac branch with a Brazilian branched endoprosthesis.

CASE REPORT

Patient J.P.S., male, 70 years old, presenting an infrarenal abdominal aorta aneurysm (5.8cm on the largest transverse diameter), associated to the common left iliac and both internal iliacs aneurysm (Figure 1).

The patient was subjected to endovascular correction of the aneurysm with an aorta bifurcated endoprosthesis implant, branched endoprosthesis for the left iliac, and embolization of the right internal iliac aneurysm, with the use of a customized BRAILE endoprosthesis.

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Figure 1: Pre-surgical angiotomography.

Features of the Branched Endoprosthesis for Iliacs

The BRAILE branched endoprosthesis was customized, with a fabrication period of 20 days (including tests), in two identical models (for evaluation of the ex-vivo release), with pre-catheterization (release device for 4 Fr and a J tip metallic guidewire 0.035x260 cm) of the internal iliac branch (Figure 2). Presented in a release system with a 20 Fr profile.

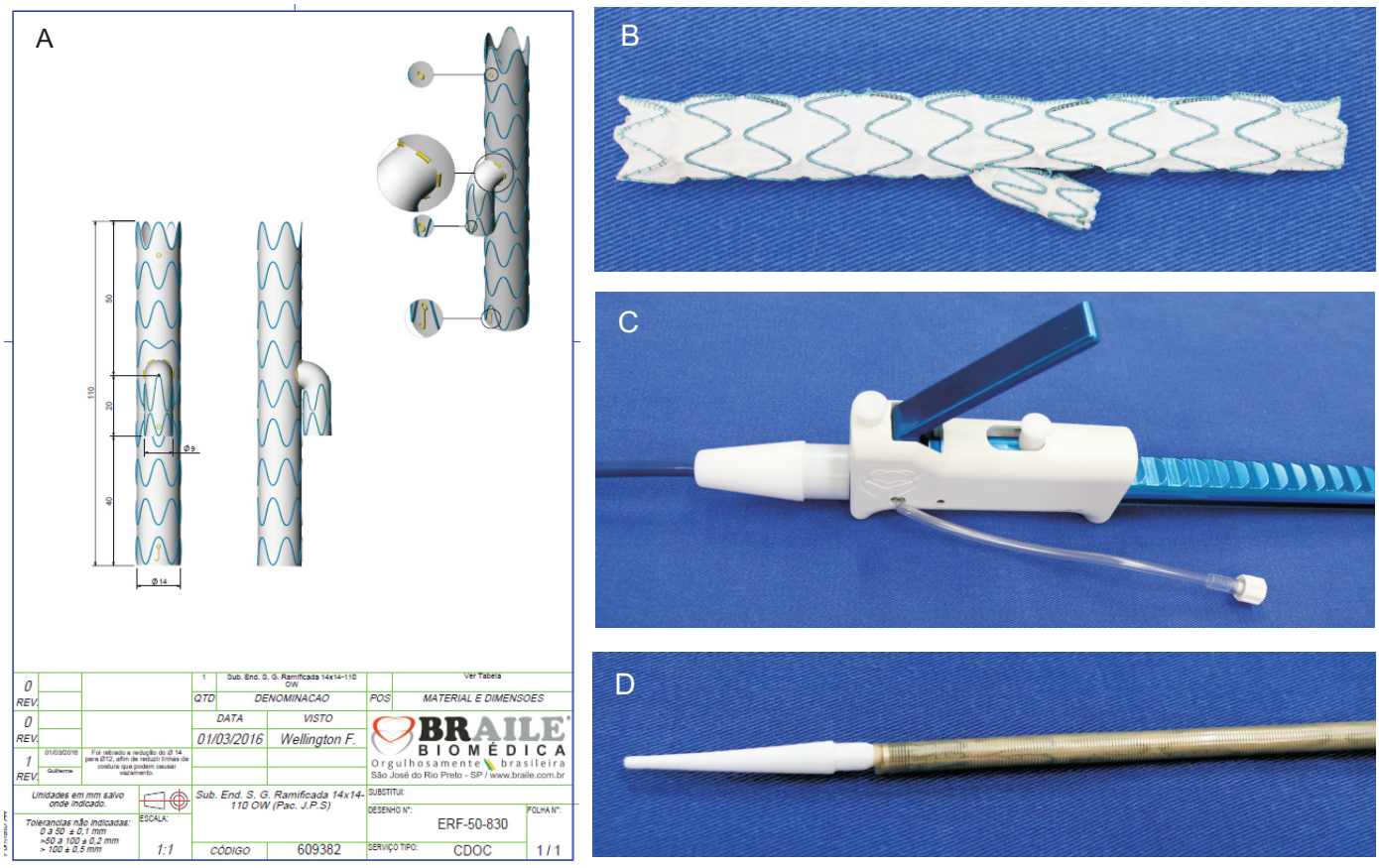


Figure 2: A. Customized iliac branch project. B. Left iliac bifurcated branch. C. Release system. D. Release system: pre-catheterized bifurcated branch.

Surgical Technique

Bilateral femoral and left axillary accesses were used (all by dissection).

The procedure was initiated via contralateral catheterism of the right internal iliac artery for embolization with BRAILE embolization springs (15cm in length x 15 mm in diameter).

Release of the main body of the BRAILE abdominal bifurcated endoprosthesis for the right iliac branch with extension to the right external iliac. Catheterism of the contralateral branch of the bifurcated aortic endoprosthesis, as typical, and left iliac bifurcated endoprosthesis implant (customized), until the release of the pre-catheterized internal iliac branch (without total release of the endoprosthesis to avoid the reduction of the iliac bifurcation lumen). Passage of the pre-catheterized guidewire until the aortic arch, which was lassoed by the left axillary access, performing the through-and-through technique. Insertion of a long-wired sheath 9 Fr, 80 cm, until the beginning of the iliac branch and catheter until the inside of the iliac branch, the endoprosthesis internal (through and through removal of the guidewire). And catheterism of the gluteal branch of the left internal iliac artery. Using an extra-stiff guidewire to implant the coated Fluency self-expandable stent (Bard Peripheral Vascular, Arizona-USA).

To increase the radial stress of the connection between the internal iliac branch of the endoprosthesis and the coated stent, as well as to improve the angulation to the gluteal branch of the left internal iliac branch, the self-expandable Eluminex stent, non-coated (Bard Peripheral Vascular, Arizona-USA) (Figures 3 and 4).

A total of 170 mL of iodized non-ionic iso-osmolar contrast were used.

The patient was taken to the ICU during the post-surgical period, remaining 24 hours and being discharged after 48 hours (total hospitalization time: 3 days).

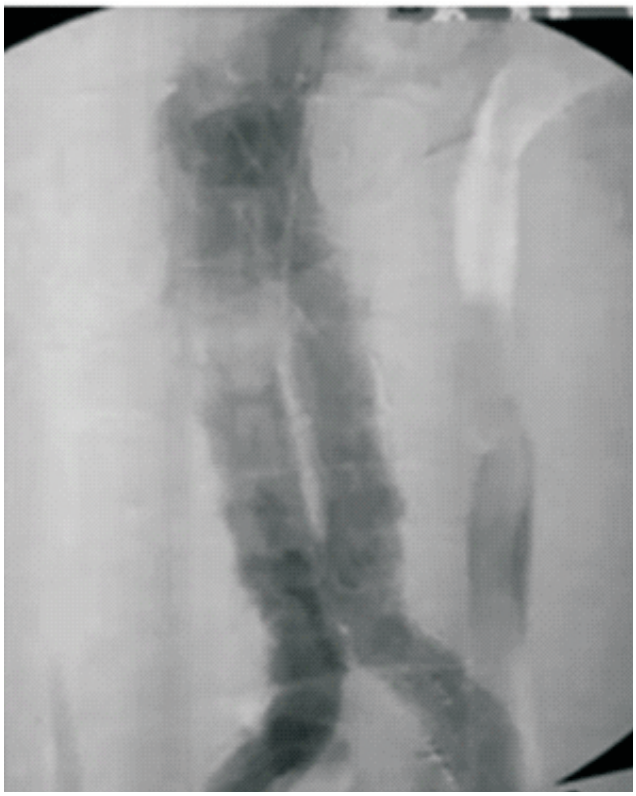


Figure 3: Final control - AAA correction.

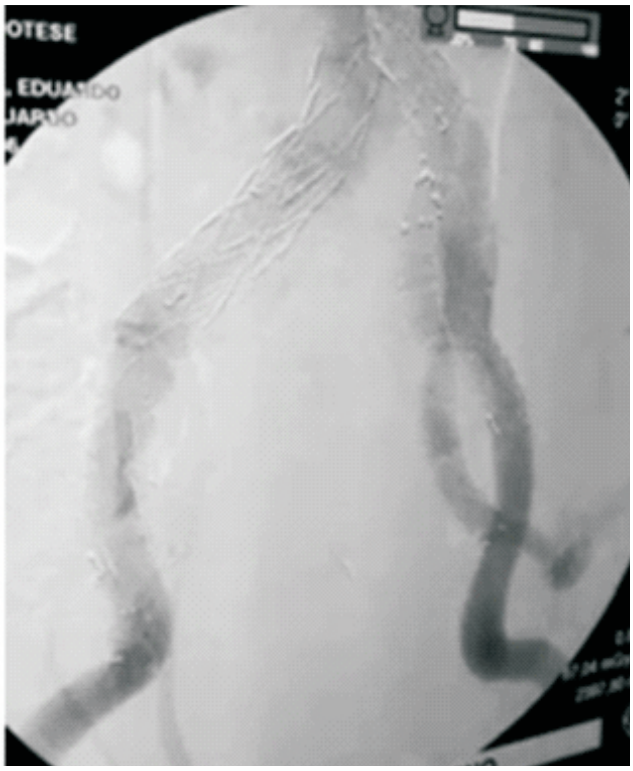
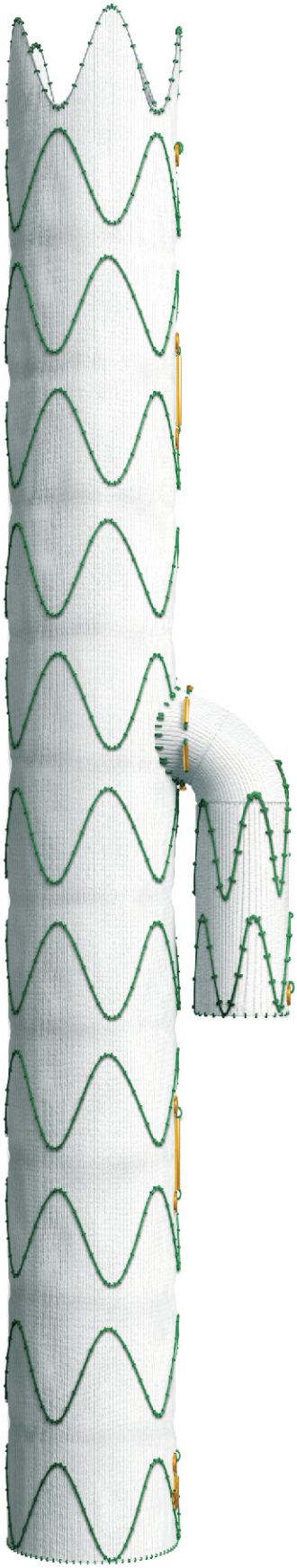


Figure 4: Final control – correction of iliac aneurysms.



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