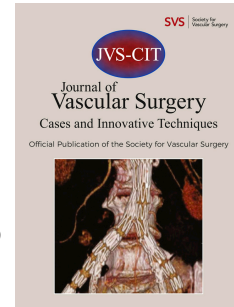


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Open conversion following Nellix Endovascular Aneurysm Sealing (EVAS)

Giovanni Tinelli, MD, PhD, Franco Alberto Codispoti, MD, Simona Sica, MD, Fabrizio Minelli, MD, Francesca De Nigris, MD, Yamume Tshomba, MD



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1 **Open conversion following Nellix Endovascular Aneurysm Sealing (EVAS)**

2

3 **Authors**

4 Giovanni Tinelli^a, MD, PhD, Franco Alberto Codispoti^a, MD, Simona Sica^a, MD, Fabrizio Minelli^a,
5 MD, Francesca De Nigris^a, MD, Yamume Tshomba^a, MD

6

7 **Affiliations**

8 ^aUnit of Vascular Surgery, Fondazione Policlinico Universitario Gemelli IRCCS, Roma -
9 Università Cattolica del Sacro Cuore

10

11 **Corresponding author**

12 Tinelli Giovanni, MD, PhD

13 Fondazione Policlinico Universitario Agostino Gemelli IRCCS - Università Cattolica del Sacro
14 Cuore

15 Largo Agostino Gemelli, 8 - 00168 Roma, Italia

16 mobile: +39 3474864020

17 email: giovanni.tinelli@policlinicogemelli.it

18

19 **Keywords:** Nellix, Endovascular Aneurysm Sealing (EVAS), Open conversion, Personalized
20 medicine

1 Abstract

2 The Nellix Endovascular Aneurysm Sealing (EVAS) System (Endologix, Irvine, California, USA)
3 was presented as a novel concept in the treatment of abdominal aortic aneurysm (AAA). After
4 numerous adverse events, the device has been voluntarily withdrawn from the market by the
5 manufacturer. The purpose of this video is to describe the technical approach of a successful
6 explantation of the Nellix endograft in a patient who underwent EVAS for AAA. Patient's consent
7 for publication was obtained.

8

9 Narration text

10 We report the successful explantation of the Nellix endograft in a 77-year-old man who underwent
11 EVAS in 2015 for an asymptomatic 58-mm abdominal aortic aneurysm (AAA).

12 The preoperative computed tomography angiography (CTA) showed a 25 mm length aortic neck
13 just below a right polar renal artery. The EVAS procedure was performed using two 150x10-mm
14 modules Nellix devices with 60 mL of polymer, with an intrasac pressure of 180 mmHg. A
15 postoperative CTA confirmed the correct grafts deployment, the sac exclusion and the iliac arteries
16 patency.

17 After 6 months from the EVAS procedure, the patient underwent a right-to-left femoral-femoral
18 crossover bypass (FCB) in emergent setting, due to an early left iliac endograft occlusion.

19 The 3-year follow-up CTA, confirmed a both grafts distal migration, and a type Ia endoleak with
20 the enlargement of the AAA to 64-mm. We planned an open conversion due the high risk of
21 rupture.

22 The sac aneurysm, the left renal and the common iliac arteries were exposed by a retroperitoneal
23 approach with a left flank incision from the tip of the 11th rib to the lateral rectus border at the
24 paraumbilical level.¹

1 The aortic clamping was placed between renal and accessories arteries. The Nellix grafts were
2 removed intact without any difficulties. The polymer bags appeared to have wall apposition. We
3 confirmed the left module graft thrombosis.

4 A bifurcated 16x9-mm Dacron graft (Vascutek®Gelsoft™) was anastomosed to the abdominal aorta
5 with 3/0 polypropylene and Teflon felt to support the suture. The distal anastomosis was performed
6 only for the right common iliac artery, due to the good patency of the FCB and an optimal
7 peripheral runoff. The left branch of the Dacron graft was sutured. The patient did not have any
8 complications in his postoperative course and was discharged on 6th post-operative day with regular
9 ultrasound follow-up.

10 Post-operative surveillance of Nellix stent grafts is crucial since late open conversions could be
11 necessary.

12

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