

GLUBRAN[®]2

Liquid embolic agent for Interventional Radiology

Type 2B endoleak after EVAR: Percutaneous Transabdominal Embolization with Glubran[®]2

Loffroy R et al. J Radiol 2010;91:901-4

Type 2B endoleak after EVAR treated by percutaneous embolization of lumbar arteries under fluoroscopic control after transabdominal ultrasound-guided puncture of the aneurysmal sac.

Case

87 year-old patient (57 kg) with history of EVAR by aorto-bi-iliac covered prosthesis (Talent[®] Medtronic CA, USA). Follow-up at 12 months detected a type 2B endoleak by retrograde injection of periprostatic aneurysmal sac from the L4 lumbar arteries. At the following controls the size of the sac increased significantly up to 68 mm in diameter.

Methods

In supine position, under general anesthesia and antibiotic coverage.

1. Abdominal pre-embolization CT scan after injection of iodine in the arterial phase.

- 1a) Highlighting of type 2B endoleak (arrows) at the posterior part of the sac
1b) Viewing the left L4 lumbar artery reinjecting the periprostatic aneurysmal sac (arrow)

2. Direct transabdominal percutaneous puncture of the periprostatic aneurysmal sac under ultrasound guidance using a 16-G Angiocath x 13 mm (BD Infusion Therapy Systems Inc. USA)

- 2c) Color Doppler mode US: endoleak (arrows) in red in a posterior left lateral position relative to the stent (head arrow)
2d) B-mode US: percutaneous transabdominal puncture of the aneurysmal sac by an angiocatheter (arrows) toward the endoleak (arrowheads)

3. Introducer sheath 6-French x 35 cm type Arrow[®] (Arrow, PA, USA) was set up within the sac in contact with the leak (nidus).

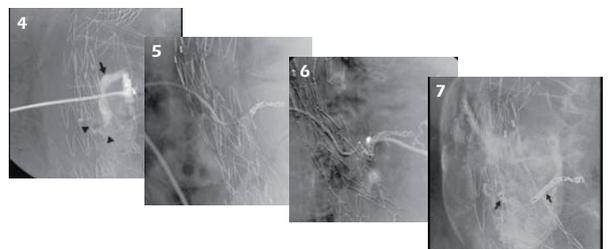
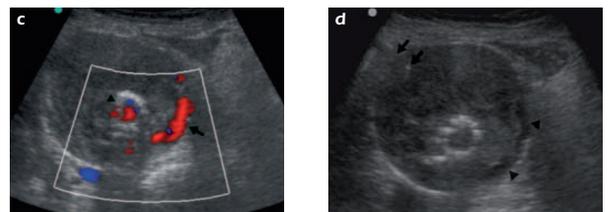
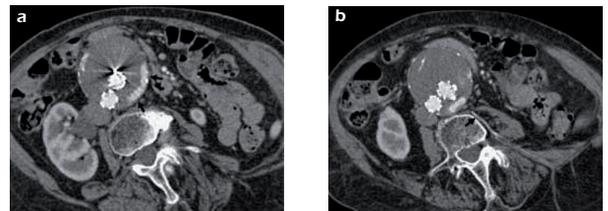
4. Endoleak and origin of two L4 lumbar arteries opacification through Vanschie catheter 5-French x 40 cm (Cook[®], USA)

5. Selective retrograde catheterization of each lumbar artery by a microcatheter 2.9-French x 130 cm (Progreat[®], Terumo, Belgium)

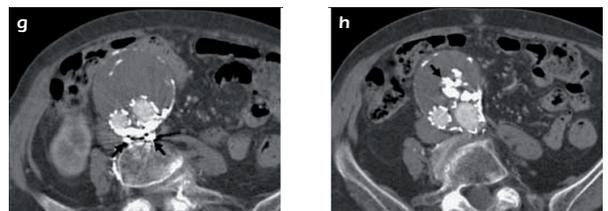
6. First centimeters embolization of both L4 arteries by placing microcoils (0.018-inch multiple platinum microcoils, Cook[®], Denmark) of 5, 4 and 3 mm in diameter and of varying lengths until complete occlusion

7. Embolization of the aneurysmal sac (nidus) with synthetic glue Glubran2[®] (n-butyl 2-cyanoacrylate + MS by GEM s.r.l., Viareggio, Italy) mixed with Lipiodol[®] (Guerbet, Aulnay-sous-Bois, France) (1:3 dilution)

- g) Microcoils at the origin of two L4 lumbar arteries (arrows) with no more endoleak
h) Persistence of Lipiodol within the aneurysm sac (arrow) with respect to the additional biological adhesive embolization



Abdominal CT control after at 6 months after the embolization procedure



Results

- At the 6th month after complete embolization of endoleak, a discrete reduction of the aneurysmal sac was noted (size: 66 mm)
- No complication during and after procedure was reported

Take home messages

Percutaneous transabdominal embolization under ultrasound and fluoroscopic guidance and/or TDM is an interesting procedure to treat effectively type 2B endoleaks when the anatomical conditions make it technically possible.

Catheterizing and occluding the origin of the lumbar arteries supplying the endoleak when technically possible by coils and complete embolization of the intra-sac nidus with a synthetic glue to reduce the risk of recurrence.

Glubran[®] 2 mixed with Lipiodol[®] is an appropriate embolic agent for safe type 2B endoleak treatment.



20th years of worldwide experience