Extensive gluteus necrosis after EVAR and unilateral internal iliac artery embolization

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
IIA embolization during EVAR

- Nearly half of AAA patients undergo EVAR after IIA exclusion
- It has been proven safe and effective to avoid type II endoleaks

Complications after IIA embolization during EVAR

- Buttock intermittent claudication: 13-55%
- Sexual dysfunction: 0-20%
- Ischemic colitis: 0-3.4%
- Spinal cord ischemia: <0.1%
- Extensive gluteus necrosis? rare!

Case report

- Male, 81yo,
- AAA for 6 years, rapid enlargement for 6 months
- Past History: Hemorrhagic stroke 15 years ago and recovered well except mild speech difficulty.
- HTN,
AAA + bilateral Aneurysm of CIA; short aneurysmal neck
Plan: cEVAR
EVAR+ Left renal Chimney + Right IIA embolization
DSA of the right IIA
Coil embolization of right IIA
Final DSA
1st day Post-EVAR

• Symptoms: Bilateral lumbosacral discomfort, and right hip joint movement disorder;
• PE: No abnormal signs in the bilateral buttock region. Bilateral lower limbs: warm and dorsalis pedis arteries: normal pulse.
• Suspect of gluteal ischemia?
DSA: 1st day after EVAR
- IIA embolization before EVAR is safe and effective!
- Bilateral coil embolization of IIA will cause more ischemic complications than direct coverage!
- Gluteal ischemia occurred in 5 pts and all recovered well with conservative therapy!
post-EVAR

- Conservative therapy: $O_2$ inhalation, Antiplatelet, anticoagulation and vasodilator therapies (Aspirin; low molecular weight heparin; and PGE$_1$);
Lab

Creatine Kinase (IU/L)  Serum Creatinine (mmol/L)
1 week post-EVAR
gluteus necrosis

2 weeks  3 weeks  4 weeks
Purpose: To assess the clinical outcomes of internal iliac artery (IIA) embolization before endovascular aneurysm repair (EVAR).

Methods: Between 2002 and 2011, 88 patients underwent IIA embolization prior to EVAR. Sixty-five patients underwent unilateral and 23 underwent bilateral IIA embolization. A total of 111 IIAs were embolized: 56 were embolized with coils, 41 with Amplatzer plugs, and 14 with a combination of embolic agents. The outcomes were assessed retrospectively by reviewing medical records and follow-up imaging.

Results: IIA embolization was technically successful in 95.7% of cases. Type 2 endoleak from previously embolized IIAs was seen in 4 cases, and in 1 case this was significant necessitating reintervention. Buttock claudication was reported in 38% of cases, whereas new onset erectile dysfunction occurred in 10% of cases. No severe ischemic complications, such as spinal cord ischaemia or buttock necrosis, were reported. Analysis comparing unilateral versus bilateral embolization, simultaneous versus sequential embolization, and the type of embolic material used showed no statistical significance.

Conclusion: IIA embolization is technically successful and effective in preventing significant type 2 endoleak in the majority of cases. It is a relatively safe procedure without major complications, but the incidence of buttock claudication and erectile dysfunction remain relatively high, and patients should be consented appropriately. There is no significant benefit for adopting a particular embolization technique, but there is a tendency towards reduced pelvic ischaemia with proximal embolization. Four cases of type II endoleak occurring after technically successful IIA embolization supports the school of thought that IIA should be embolized prior to coverage and extension of the distal landing zone.
Lessons from this case

• Extensive gluteus necrosis is rare, but it can happen even after embolization unilateral IIA during EVAR.

• Proximal embolization of IIA should be better to reduce pelvic ischemia.

• IIA revascularization should be considered if it is conditioned.
Thank you for attention!
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