Strategies and Technical Tips for Endovascular Treatment of a Giant Hypogastric Artery Aneurysm

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Disclosures
No Disclosures

Hypogastric Aneurysms
Epidemiology

• Uncommon Entity: 0.4 % of abdominal aneurysms
  • Unilateral in 85 % of the cases
  • Mostly in Men > 60 years old

JW Richardson, LJ Greenfield
Natural history and management of iliac aneurysms
Vasc Surg 8,165-171,1998

Aneurysm Anatomical Distribution Uni or Bilateral

Common Iliac Aneurysm
Hypogastric Aneurysm

Standard 3-5cm
Large 5-8cm
Giant > 8cm

Important concern during EVAR

Common Iliac Artery Aneurysm

Stent-Graft

Hypogastric Coils
Hypogastric Aneurysms

**Natural History**

- **Aetiology**
  - Progressive Atherosclerosis
  - Trauma
  - Arterial wall Deficiency
  - Infection

- **Rupture > 33 %**
- **Mean size > 7.7 cm**
- **Mortality > 58 %**

*The Isolated Internal Iliac Aneurysm: a review. FP Dix et Al, Euro J Vasc Endovasc Surg 30; 119-129, 2005*

**Symptomatology**

- Lombo-sacral pain
- Urinary tract obstruction
- Thrombophlebitis
- Abdominal distension

Asymptomatic in 43 %

*BJ Brin et al Arch Surg 1982;117:1329-1333*

**Giant Hypogastric Aneurysm**

- **Total Thrombosis**

*Courtesy Dr Greco, University of Bari, Italy*

**Hypogastric Artery Embolization**

- Farahmand P, Becquemin JP, Desgranges P
  - Is hypogastric artery embolisation during endovascular aortoiliac aneurysm repair (EVAR) innocuous and useful ?
  - *Eur J Vasc Endovasc Surg 2008;35:429-435*

**Hypogastric artery in man**

- Global distribution of the branches

**Direct and Collateral Perineal and Visceral Arterial Blood Supply**

**Post-Operative Risk**

- Buttock Claudication
- Colonic Ischemia
- Sciatic Nerve Palsy
- Male Impotence

*Collegial Decision Making
Multi Disciplinary Contribution
Patient Informed Consent*
Hypogastric Artery Embolization

Staged Procedure
Main Trunk
Avoid Bilateral

Preservation of Pelvic Arterial Flow

Peripheral Embolization Coils

Embolization Plug
Self expendable Nitinol endovascular system

Mostly devoted to a single device implantation

Controlateral Access
Cross Over Technique

Better stability & control

Usual Technique for Cerebral Aneurysms

Intra-Aneurysmal Coils Associated with Intra-Vascular Stent
Avoiding a Potential Migration

Case Report

Admission of a 79 years old Bulgarian gentleman

For a giant left hypogastric artery aneurysm

In combination with a saccular aneurysm of the abdominal aorta
**Decision Making**

**Endovascular strategy**

- Staged procedure
- Percutaneous access
- Cross over technique
- Multiple standard coils
- Closure device

Collaboration vascular surgeon / Interventional radiologist

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**Procedure**

The interventional team

Endovascular surgeon + Interventional radiologist

Percutaneous left contralateral access

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**Coil Embolisation**

Total exclusion of the hypogastric aneurysm

Using percutaneous cross over access

Implantation of 60 flexible metallic coils

With the final objective of a compact packing

* a certain number of coils …
Associated Sacciform AAA

Saccular AAA Exclusion Using EVAR

Performed two weeks later

Conclusion

• Endovascular Approach vs Open Surgery
• Precise and complete embolization of the aneurysm
• Staged procedure
• CT scan follow up

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