

VEITHSymposium  
November 19-23, 2024

*Session 43: More New Developments in AAA*

**Endovascular Strategies For Repairing  
Giant Hypogastric Artery Aneurysms (> 6 cm):  
What Special Techniques Are Needed ?**

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Paris, France



**No Disclosure  
Regarding This Presentation**

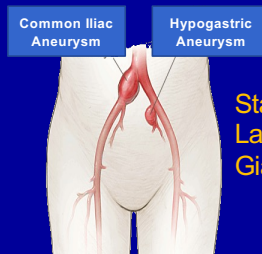
VEITH Symposium, November 19-23 2024, NYC



*Thank you Frank for your invitation  
With my best wishes and congratulations*



**Aneurysm Anatomical Distribution  
Uni or Bilateral**



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

**Important concern during EVAR**

**Hypogastric Aneurysms**  
*Epidemiology*

- Uncommon Entity: 0.4 % of abdominal aneurysms
- Mono-Lateral 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*

**Hypogastric Aneurysms**  
*Natural History*

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

**Mean size > 7.7 cm**

**Rupture > 33 %**

**Mortality > 58 %**

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

## Hypogastric Aneurysms

### Symptomatology


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

**Asymptomatic in 43 %**

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

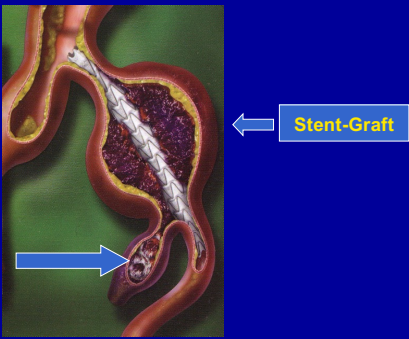
## Giant Hypogastric Aneurysm

**Total Thrombosis**





Courtesy University of Bari, Italy

## Common Iliac Artery Aneurysm

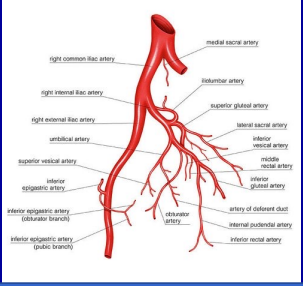


## Hypogastric Artery Embolization

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

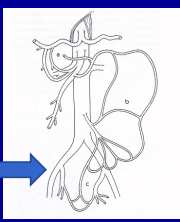
**Hypogastric artery in man**  
 Global distribution of the branches



**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**

### Isolated Hypogastric Artery Aneurysm

**unilateral**                      **bilateral**

**Different strategy - Different outcome**

### Hypogastric Artery Embolization

**Staged Procedure**  
**Main Trunk**  
**Avoid Bilateral**

**Preservation of Pelvic Arterial Flow**

### Peripheral Embolization Coils

<p><b>Bare Platinum Coil</b> (Multiple Manufacturers)</p> <p>Coils come in various Outer Diameters (OD) based on the primary wind and various secondary shapes.</p>	
<p><b>VortX® Pushable Coils</b> (Boston Scientific)</p> <p>Conical shape and apex-first deployment (0.018 and 0.035)</p>	<p><b>Interlock Fibered IDC™</b> (Boston Scientific)</p> <p>Fibered platinum detachable coil available in 0.018, 0.035</p>
<p><b>AZUR® Hydrocoil</b> (Terumo)</p> <p>Platinum coil and external expanding hydrogel polymer</p>	<p><b>AZUR® CX</b> (Terumo)</p> <p>Complex shaped coil with internal expanding hydrogel</p>
<p><b>Ruby®</b> (Penumbra)</p> <p>Platinum embolization coils with .020" outer diameter and available in lengths from 1 cm to 60 cm. Compatible with hi-flow microcatheters such as Lantern™</p>	<p><b>Concerto™</b> (Medtronic)</p> <p>PGLA or Nylon microfilaments are enlaced throughout the coil promoting hemostasis.</p> <p><small>Image courtesy of Medtronic. © Medtronic. All rights reserved.</small></p>

### Embolization Coils and Devices

**AZUR CX**  
Peripheral Coil System

Use these coils to occlude the vessel lumen to treat the complete aneurysm or to treat the residual aneurysm. The fibrous polymer sheath is composed of a variety of polypropylene filaments and polymer particles to reduce the space.

**Deployment of the:**  
**Interlock™ -35 Coil**

**Continuous Flush Technique**

**Prior to use, please review the Interlock-35 DFU**

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**Deployment of the:**  
**Interlock™ -18 Coil**

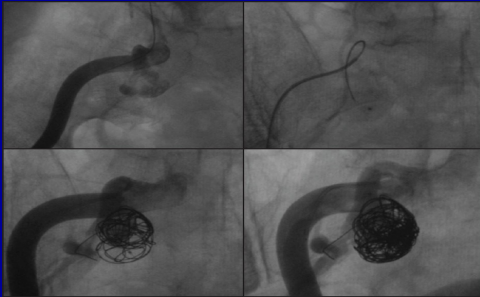
**Prior to use, please review the Interlock-18 DFU**

### Embolization Plug

**Self expandable Nitinol endovascular system**

**Mostly devoted to a single use**

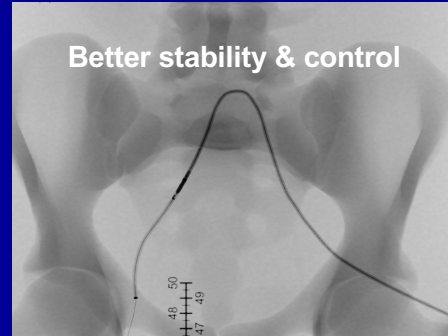
### Ipsilateral retrograde transluminal access



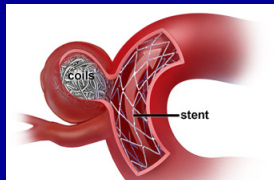
Could potentially induce a lack of stability during the endovascular procedure

### Controlateral Access

#### Cross Over Technique



### 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 gentleman

For a giant left hypogastric artery aneurysm  
**10 cm x 6 cm**

In combination with a saccular aneurysm of the abdominal aorta

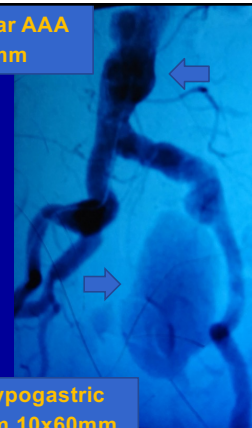
### Decision Making

#### Endovascular strategy

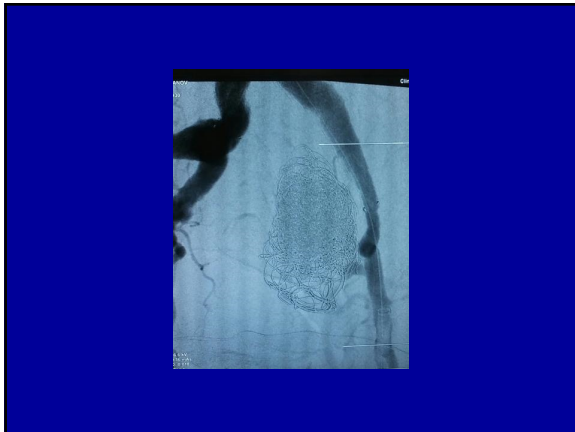
- Staged procedure
- Percutaneous access
- Cross over technique
- Multiple standard coils
- Closure device

Collaboration vascular surgeon / Interventional radiologist

Saccular AAA  
45mm



Giant Hypogastric Aneurysm 10x60mm



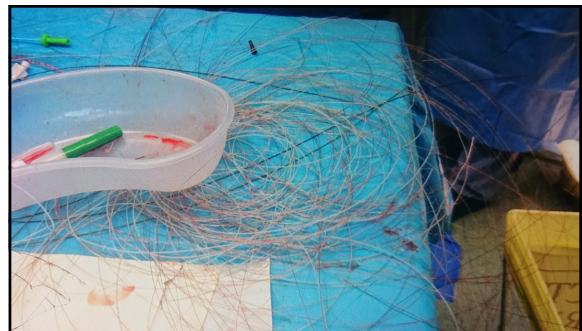
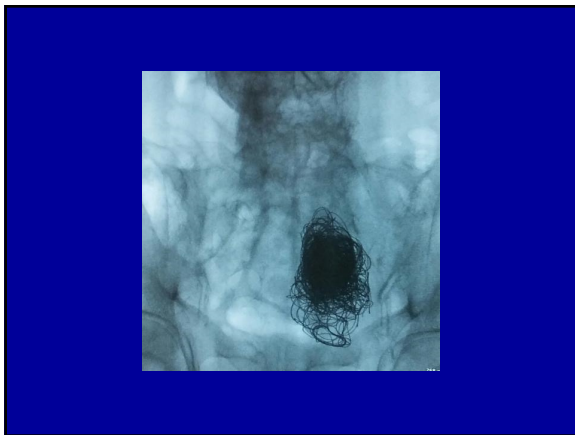
### Coil Embolisation

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

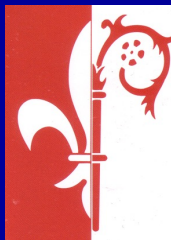
## Conclusion

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



*Thank you*

## Clinique Chirurgicale Val d'Or



[www.clinique-valdor.com](http://www.clinique-valdor.com)

Saint Cloud  
Groupe Fondation VIVALTO

