Endovascular Treatment of Large Aneurysms with an Uncovered Stent Excludes the Aneurysm while Preserving Branch Flow: Does it Work?

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Thanks Frank for your invitation

No disclosure regarding this presentation

Renal Artery Aneurysms
- Fibromuscular dysplasia
- Atherosclerosis

Need for treatment if > 2 cm diameter
- HTA
- Hematuria
- Pain
- Renal Insufficiency
- Rupture

Renal Artery Aneurysms
High risk of rupture in hypertensive patient and during pregnancy

Anatomical aspects
- Generally saccular shape
- More common close to bifurcation
- Outside the kidney
- Often on branches of division
Renal Aneurysm Geographical Repartition

Angiographic Classification
Rundback et al, J Vasc Inter Radiol 2000;11:1189-93

- Sacciform
- Fusiform
- Distal

Excisional Open Surgery

Inoperable Renal Aneurysms
either too distal
or too complex

Renal Artery Aneurysms
Endovascular Options
Vascular Covered Stent

Exclusion with Stent Grafting

Usual Technique for Cerebral Aneurysms

Peripheral Embolization Coils

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

Dr Fedor Serbinenko
Neuro-Surgery - Moscow
1928-2002

Jacques Moret, MD
Neuro-Interventional Specialist
Rothschild Foundation
Paris
Snaring after Coil Migration
Conclusion

Early diagnosis based upon echo-duplex scan, angioCT & angiography

Documented decision-making with a multidisciplinary collaboration

Role of open surgery performed by an experienced surgical team

Endovascular technologies as a first-line option

Miniaturised catheterization for optimal navigation

Combined use of focal embolization techniques and protective stenting

Thank You
Anatomy of the Coeliac Trunk

Hepatic
Splenic

A fundamental Visceral Artery

The Mesenteric Arteries

Example of a Giant Coeliac Trunk Aneurysm

Courtesy Dr Tuncel S.A.

Pol J Radiol 2015; 80: 356–359
Coeliac Artery Aneurysms

- Unusual lesion
- 4% of splanchnic aneurysms
- 15-20% of complications
- High risk of rupture

First Description

Shumaker HB, Siderys H

*Excisional treatment of aneurysm of the celiac artery*

*Ann Surg. 1958;148 / 885*

The first resection with concomitant revascularization of a celiac arterial aneurysm

Open Reconstructive Surgery

- Dissection
- Clamping
- Reconstruction

A Complex Vascular Procedure

The Modern Endovascular Approach

Endovascular approach is frequently cited as a first-line treatment given its advantages

The current availability of new type of stent graft and agents of embolisation

Case Report

- 55 years old chinese man
- History of severe hypertension
- Abdominal angioCT
- Pathological visceral aortic arteries

Acute abdominal syndrome
Coeliac Artery Aneurysm

Celiac Artery Aneurysm with Embolic Thrombus

Contrast Echo Duplex Scan
Left renal Stent Control

The Modern Endovascular Approach

Jesinger RA, Thoreson AA, Lamba R.
Abdominal and pelvic aneurysms and pseudoaneurysms: imaging review with clinical, radiologic, and treatment correlation

Radiographics. 2013;33:71–96

Endovascular approach is frequently cited as a first-line treatment, given its advantages
**Endovascular repair of a celiac aneurysm with a new multilayer stent**

Giampaolo Carrafiello, MD et al.  
*Journal of Vascular Surgery*  

**Stent Graft Therapy**

- Length of the neck, tortuosity of the arteries, precise location of the aneurysm, and angulation of the aneurysmal tract should be evaluated carefully prior to implantation.

- Moreover, selecting a stent graft of appropriate dimensions and mechanical properties, as well as releasing the stent in a proper position, should be also taken into consideration.

**Lagana D, Carrafiello G, Mangini M et al.**

Multimodal approach to endovascular treatment of visceral artery aneurysms and pseudoaneurysms  
*Euro J Radiol*. 2006;59:104-11

Report rates of primary and secondary technical success to be 87.9% and 100% respectively.

**Favourable Mid and Long Term Patency Rate**

**Left Renal Angioplasty**

**Left Renal Stent Control**

**Right Renal Artery**
11/20/2019

Stent renal dt
Produit de contraste Sonovue
Artère rénale G

Right Renal

Thrombus sur plaque du tronc coeliaque