Management of a complex renal artery aneurysm

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Disclosure

Speaker name:  

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
Renal artery aneurysm (RAA) is a rare entity with a prevalence of 0.09% in general population, being it the second most frequent visceral aneurysm.

More frequent in the 6th decade of life, affecting predominantly women.

Most of the RAA are diagnosed incidentally (asymptomatic).

When with symptoms:
- Flanck pain, abdominal pain, hematuria, refractory hypertension
- Renal bruit and abdominal palpable mass are not reliable

Poutasse classification:
- Type I – saccular
- Type 2 – fusiform
- Type 3 – desiccant aneurysm
- Type 4 – hilum or parenchymatous
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Introduction

- Diagnosis:
  - angioTC (GOLD STANDARD)
  - angioRMN
  - ecoDoppler
  - Angiography

- Indications to treat:
  - > 20mm, female gender in childbearing age
  - Symptomatic
  - Associated with renal artery stenosis, thromboembolism, dissection or rupture

- Treatment options
  - Rundback classification
    - Type I RA trunk -> endovascular
    - Type II evolving the RA bifurcation -> open surgery or endovascular
    - Type III hilum or parenchymatous -> open surgery, sometimes requiring ex-vivo reconstruction
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**Case Report**

- **71-year-old**

Personal history:
- Hypertension > twenty years

Following the study for an abdominal discomfort
- Complex RAA was incidentally diagnosed

CT angiography (three-dimensional reconstruction):
- 13mm, saccular aneurysm located at the right renal hilum.
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Case Report

Laparoscopic nephrectomy with ex vivo repair of the RAA.

Aneurysm was resected

Polar renal artery was implanted over the resected area with a latero-terminal anastomosis.
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Case Report

Renal vein was augmented with a spiral great saphenous vein graft

Kidney was implanted into the right iliac fossa.
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Case Report

The intervention and postoperative course were uneventful.

Ultrasound (day after procedure): normal renal perfusion with normal flow indices.

Actual follow-up (six months after surgery)
Patient is alive with a well-functioning auto-transplant (normal renal perfusion scintigraphy)
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Discussion

• RAA may be nowadays more frequently diagnosed due to the increasing use of imaging techniques.

• We present here a complex Poutasse Type IV and Rundback Type III RAA

• Ex vivo repair and auto-transplantation is a challenging but feasible option for treating hilum RAA with multiple technical solutions availables, especially in a Vascular Surgery department with a vast experience in conventional renal transplant
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Thank You!!

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