Superior Mesenteric Artery Pseudo-Aneurysm caused by Mitral Valve Endocarditis

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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
INTRODUCTION

- Rare (incidence 0.01 – 2.6%)
  - Limited understanding of pathophysiology
- Potentially life-threatening
  - ↑ risk of rupture with hemorrhage (10-50%)
  - ↑ risk of visceral ischemia
  - ↑ risk of sepsis in case of mycotic aneurysm
- Asymptomatic ↔ mild - severe abdominal pain
- 50 – 60% are mycotic and occur subsequent to infective endocarditis
INTRODUCTION

• When to treat
  • Irrespective of size, even in asymptomatic patients
    ⇒ Mortality 25-70% in case of rupture

• Conventional vs. endovascular treatment
  • Surgical ligation of the pseudo-aneurysm, assessment of bowel viability, revascularization (1953, DeBakey and Cooley)
  • Coiling and stent placing (1998, McGraw et al.)
CASE REPORT

• 38-year-old man with severe abdominal pain since 2 days and vomiting
• Hemodynamically stable
• Pulsatile mass peri-umbilical
• Known pseudo-aneurysm of the SMA since 4 months
  • secondary to endocarditis 3 years earlier
CASE REPORT

• History
  • August 2013 – destructive mitral valve endocarditis
    • Strept. Lugdunensis, coag. neg
  • Sept 2013 – Mitral valve replacement
    • Mechanical valve
    • Lifelong use of Marevan
  • Feb 2016 – Peri-umbilical pain since 1 day
    • CT scan: pseudo-aneurysm of SMA, max Ø 4,1 cm
    • Coiling (MREye coils) after placement of 9mm stent
CASE REPORT

- March 2016 – Recurrent peri-umbilical pain since several hours with dorsal radiation
  - CT scan: limited leakage in pseudo-aneurysm
  - Conservative treatment
  - DD viral/ cannabinoid hyperemesis syndrome/ Transient ischemia due to use of cannabis
CASE REPORT

• May 2016 – Severe abdominal pain with vomiting
• CT scan: recanalisation, ↑volume of pseudo-aneurysm, distal stent stenosis
CASE REPORT

- Treatment: coiling and stent dilation with 4mm balloon

- Ultrasound 3 weeks later: feasible flow through SMA and stent. No flow in the pseudo-aneurysm.
CASE REPORT

- 1 month later
  - CT scan: ↑↑ volume of pseudo-aneurysm with bleeding
  - Preoperatively: 8x40mm balloon was placed in the SMA postostial as bridging for surgery
CASE REPORT

- Urgent midline laparotomy
CASE REPORT

• Resection of pseudo-aneurysm and all coils and stent
• Reconstruction with end-to-end saphenous vein interposition graft
CASE REPORT

- Recovery was uneventful
- CT scan 1 month postop
CONCLUSION

• Rare but possible life-threatening condition
• Non-specific clinical picture
• Acceptable outcome only through timely diagnosis and treatment
• Treatment indications based on etiology of aneurysm, not on diameter
• SMA transcatheter embolization suitable for hemodynamically patients
• If not sufficient or complications occur, surgical management is obligatory
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Thank you for your attention

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