Guidelines for Management of Visceral Artery Aneurysms

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Disclosures

None.
Objectives

1. Discuss history and presentation of visceral artery aneurysm.
SVS Clinical Practice Guidelines on the Management of Visceral Aneurysms

**Hepatic Artery**
- Symptomatic
- Size >2cm
- Growth >0.5cm/year

**Gastric and Gastroepiploic Arteries**
Repair all aneurysms regardless of size

**Pancreaticoduodenal and Gastroduodenal Arteries**
Repair all aneurysms regardless of size

**Superior Mesenteric Artery**
Repair all aneurysms regardless of size

**Jejunal and Ileal Arteries**
- Symptomatic
- Size >2cm

**Splenic Artery**
- All pseudoaneurysms
- Size > 3cm
- All sizes in women of childbearing age

**Celiac Artery**
- All pseudoaneurysms
- Size > 2cm

**Colic Artery**
Repair all aneurysms regardless of size

**Renal Artery**
- Symptomatic
- Size > 3cm
- All sizes
- in women of childbearing age
- in patients with refractory hypertension and renal artery stenosis

Splenic Artery Aneurysm

• 60% of splanchnic artery aneurysms

• Diagnosis:
  – CTA (g1/qb).
    » Ultrasound limited.
    » MRA suboptimal with small aneurysms.
  – Angio for preop planning (g1/qC).

• Treatment:
  – Ruptured: Any size (g1/qB).
  – Non-ruptured pseudoaneurysm: Any size (g1/qB)
    » Rate of rupture higher at presentation.
    » 76.3% vs 3.1% (Pitton 2015).
  – Non-ruptured true aneurysm: >3 cm (g1/qC)
  – All sizes in women of childbearing age.
    » Pregnancy may account for 20-50% of ruptures.
Splenic Artery Aneurysm

Ruptured

• Discovered at laparotomy:
  – Ligation +/- splenectomy.

• Preoperative imaging:
  – Open or endovascular based on the patient’s anatomy.

• Vaccinate on or after postop day #14

Elective

• Endovascular if anatomically feasible.

• The splenic artery does not routinely require preservation or revascularization.

• Distal SAA:
  – Open techniques and possible splenectomy.

• Vaccinate at least 14 days before.

Vaccinate at least 14 days before.
Splenic Artery Aneurysm
Celiac Artery Aneurysm

• 4% of splanchnic artery aneurysms
• Diagnosis:
  – CTA (g1/qb).
• Treatment:
  – Ruptured: Any size (g1/qB).
  – Non-ruptured pseudoaneurysm: Any size (g1/qB).
    » Acceptable operative risk.
  – Non-ruptured true aneurysm: >2 cm (g1/qC).
Celiac Artery Aneurysm

Ruptured

• Discovered at laparotomy:
  – Ligation if sufficient collaterals to liver.

• Preoperative imaging:
  – Open or endovascular based on the patient’s anatomy.

Elective

• Endovascular if anatomically feasible.
• May require open.
• Evaluate status of SMA, gastroduodenal, and relevant collateral anatomy (CTA/angio).
Celiac artery aneurysm
Celiac artery aneurysm
Superior Mesenteric Artery Aneurysm

- 6% of splanchnic artery aneurysms
- Diagnosis:
  - CTA (g1/qb).
  - Angio for preop planning (g1/qB).
- Treatment:
  - True and pseudoaneurysm: Any size (g1/qA).
  - Endovascular first if anatomically feasible (g1/qB).
  - Dissection: Observation (g2/qB)
Superior Mesenteric Artery Aneurysm
Renal Artery Aneurysm

• **Diagnosis:**
  – CTA (g1/qb).
  – Angio for preop planning (g1/qC).

• **Treatment:**
  – Asymptomatic: Greater than 3 cm (g2/qC).
    » Low rupture rate (3-5%) and low annualized growth rate.
  – Symptomatic: Any size (g1/qB)
  – Elective open surgical repair of most RAA in patients with acceptable operative risk (g2/qB).
  – Endovascular Techniques in anatomically appropriate RAA (g2/qB):
    » Stent graft exclusion in patients with poor operative risk.
    » Embolization of distal and parenchymal RAA.
Renal Artery Aneurysm
Renal Artery Aneurysm
Hepatic Artery Aneurysm

• 20% of splanchnic artery aneurysms

• Diagnosis:
  – CTA (g1/qb).
  – Angio for preop planning (g1/qB).

• Treatment:
  – Pseudoaneurysm: Any size (g1/qA).
  – Symptomatic: Any size (g1/qA)
  – Asymptomatic true: >2 cm (g1/qA)
  – Asymptomatic true with comorbidity: >5 cm (g1/qB)
Hepatic Artery Aneurysm
Hepatic Artery Aneurysm
Surveillance

- **SAA**: Annual with CTA/Ultrasound.
- **CCA**: Annual with CTA.
- **HAA**: Annual with CTA.
- **SMAA**: Annual CTA to observe post-surgical patients.
- **RAA**:
  - Annual imaging until two studies stable.
  - Every two to three years thereafter.
Surveillance: Stability and Comorbidity

- Must take patient factors into account when developing a management strategy.
  - Procedure risk.
  - Type of aneurysm:
    - True.
    - Pseudoaneurysm.
  - Growth trajectory.
2009