Management of Spontaneous Isolated Dissection of the Superior Mesenteric Artery

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Disclosure

Speaker name: Hwan Jun Jae

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
Spontaneous Dissection of the SMA

- Spontaneous dissection of SMA not associated with aortic dissection
  - A rare and often fatal event which has mostly been treated with surgery in the past.
  - Recently, the chances in detecting this pathology have been increasing with the advance of diagnostic imaging.
Spontaneous Dissection of the SMA

- CT findings
  - intimal flap
  - thrombosis of the false lumen
  - intramural hematoma
  - SMA enlargement
  - increased attenuation of the fat around the SMA

Suzuki s et al. Abdominal imaging 2004
Spontaneous Dissection of the SMA

- Dissection typically begins 1 to 3 cm from the SMA, sparing the origin of the SMA.
- Acute epigastric pain or back pain.
- The formation of reentry is infrequent.

Leung DA Eur Radiology 2000
Spontaneous Dissection of the SMA

- Definite cause is still unknown

- The mechanism of symptoms is caused by compression of the true lumen due to the rapidly enlarging false lumen.

- Acute intestinal ischemia or infarction of the peripheral branches of the SMA can be followed.
Spontaneous Dissection of the SMA

- Primary objective of Tx.
  - to limit the extension of dissection
  - to preserve the blood flow distally through the true lumen
  - to prevent the rupture of the SMA

- Tx. options
  - Conservative Mx.
  - Endovascular Tx.
  - Surgery
Stent for SMA dissection

- To keep the true lumen open
- To cover the entry tear site and occlude blood inflow to the false lumen

→ false lumen can be obliterated by thrombosis
Stent for SMA dissection

- Prefer flexible **self-expandable stent** rather than a balloon-expandable stent.

- **Stent graft?**
  : not recommended, because it can obliterate multiple side branches of the SMA.
M/53: SMA dissection with mesenteric ischemia, Stenting
aneurysmal dilatation of the false lumen

MPR image
aneurysmal dilatation of the false lumen
Self expandable stent 10mm x 20mm
F/U CTA after 5 yrs
M/48: SMA dissection
M/54 with persisting abdominal pain (since 3MA)
large aneurysmal dilatation of the false lumen

obstruction of the main trunk and collateral circulation via jejunal branches

→ Aortomesenteric bypass graft surgery
M/50 SMA dissection with transient Sx.

Conservative Tx.

6M F/U CTA
M/53 SMA dissection with transient Sx

Conservative Tx.

2 yr F/U CTA
Treatment options

• Pts with transient symptoms.  
  → treated conservatively under close observation.

• Pts with suspected bowel ischemia, compression of the true lumen of the SMA >80%, SMA aneurysm >2cm in diameter on initial CT  
  → Percutaneous stenting

• Pts with bowel infarction or aneurysmal rupture.  
  → Surgery

Min SI et al. J Vas Surg 2011
Debate: Anticoagulation?

• There is currently no established consensus about the anticoagulation therapy for spontaneous dissection of the SMA.

• Thrombosis and obliteration of the false lumen is very important.

• Anticoagulation can delay the thrombosis of the false lumen, aggravating aneurysmal dilatation of the false lumen or obliterating the true lumen by the increased size of the false lumen.
   →We do not recommend anticoagulation.

Min SI et al. J Vas Surg 2011
Spontaneous Dissection of the SMA

- In the past
  - Rare
  - Fatal
  - Surgery only

- Currently, with the advance of imaging
  - Not so rare
  - Not so fatal, wide spectrum (mild-fatal)
Spontaneous Dissection of the SMA

• In the management of spontaneous dissection of the SMA
  – Percutaneous stenting could be a good alternative to surgery in patients with mesenteric ischemia.
  – Patients with transient symptoms could be treated conservatively under close follow-up with CTA.
Thank you for your attention!

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