Successful Radical And Semi-Radical Treatment Of Aortobronchial And Aortoesophageal Fistulas After TEVAR: What Is Required For Survival – Which Is Possible

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Conflict of interest: none

European Registry of Endovascular Aortic Repair Complications

- 14 participating centers in Europe
- > 4500 patients
- Center with large experience in TEVAR

Aorto-bronchial fistula after TEVAR

Aorto-bronchial fistula after TEVAR n:26

- Uncommon complication: 0.56% (26/4780)
- The median time interval between the initial TEVAR procedure and the development of ABPF: 310 days (IQR 28-1065)
- The median age was 70 years (IQR 60-77) / Male 58%
- Haemoptysis: 92%

Aorto-bronchial and aorto-pulmonary fistulation after TEVAR- an analysis from the European Registry of Endovascular Aortic Repair Complications
Eur J Cardiothorac Surg 2014

Aorto-bronchial fistula

Diagnosis:
- CT scan
  - Periaortic hematoma 65%
  - Periaortic air 39%
  - Lung hemorrhage 31%
- Endoscopy

Underlying aortic pathology for TEVAR:
- Degenerative aortic aneurysm 58%
- Aortic dissection 15%
- Traumatic injury 15%
Aorto-bronchial fistula

- Risk factors:
  - Emergent TEVAR: 50%
  - Mediastinal hematoma: 50%
  - External compression of the bronchial tree: 50%
    - Endoleak type I or III
    - Large aneurysm

- Treatment:
  - Conservative management: 19%
  - Redo TEVAR: 27%
  - Surgical conversion: 54%

- Overall survival: 29%
- Difference in survival regarding the treatment

Aorto-esophageal fistula

- Uncommon complication: 1% (36/2387)

- The median time interval between the initial TEVAR procedure and the development of ABPF: 90 days (IQR 30-150)

- The median age was 69 years (IQR 56-75) / Male 75%

- Symptoms:
  - Fever: 81%
  - Hematemesis: 53%
  - Shock: 22%

- Diagnosis:
  - CT scan
    - Masses between aorta and esophagus
    - Air entrapment within the thrombosed aneurysm dissection
  - Endoscopy

- Underlying aortic pathology for TEVAR:
  - Atherosclerotic aneurysms: 53%
  - Acute type B aortic dissections: 14%
  - Penetrating atherosclerotic ulcers: 14%
Risk factors:
- Emergent TEVAR
- Mediastinal hematoma
- External compression
- Endoleak type I or III
- Large aneurysm
- Length of aortic coverage

Treatment
- Conservative management: 28%
- Esophageal stenting: 17%
- Esophagectomy: 19%
- Surgical conversion: 36%

Aorto-esophageal fistula

Overall survival at 1 year: 28%

According to the surgical approach at 1 year:
- Conservative management: 0%
- Esophageal stenting: 17%
- Esophagectomy: 43%
- Surgical conversion: 46%

Uncommon < 2%

Favoring factors
- Emergent TEVAR
- Mediastinal hematoma
- Drainage?
- External compression
- Endoleak type I or III
- Large aneurysm

CT scan / Fibroscopy

Treatment: Overall survival < 30%
- Conservative: Uniformly fatal
- Radical or combined approach leaving the SG in place: Similar results