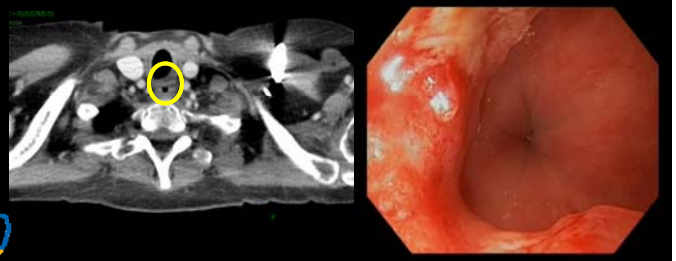
A LONG ESOPHAGEAL STRICTURE: SURGERY VS. ENDOSCOPIC APPROACH

Christophe Snauwaert Hubert Piessevaux
Cliniques Universitaires Saint-Luc, Bruxelles

BSGIE.org
Leuven, September 17th 2015

CASE PRESENTATION

- 63-year-old female
- 10/2013: squamous cell carcinoma of the upper esophagus (15 to 21 cm; cT4N0)



CASE PRESENTATION

- 12/2013-01/2014: chemo-radiotherapy:
  - ✓Cisplatinum/5-FU
  - ✓A total of 60Gy of radiotherapy:
    - 15x 2Gy at the level of the tumour and peri-esophageal lymph node areas
    - 15x 2Gy focused on the tumour (intensity-modulated radiotherapy)
- 05/2014: complete dysphagia
- Nutrition via gastrostomy

ENDOSCOPY: ANTEROGRADE ACCESS

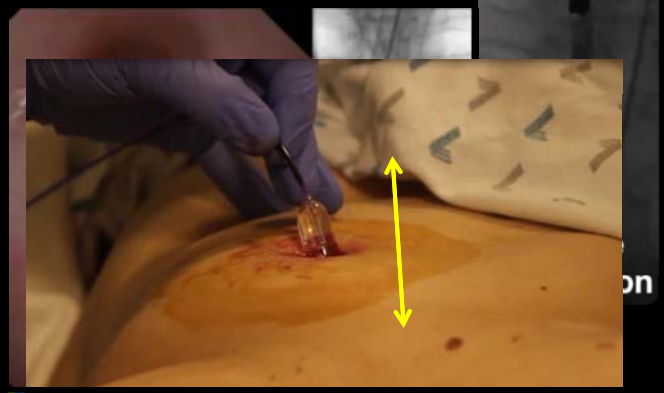
QUESTION #1: NEXT STEP?

1. PET-CT
2. Retrograde endoscopy
3. EUS to exclude underlying mass
4. Fluoroscopy-guided puncture with an EUS-needle and passage of a guidewire

QUESTION #1: ANSWER

1. PET-CT
2. Retrograde endoscopy
3. EUS to exclude underlying mass
4. Fluoroscopy-guided puncture with an EUS-needle and passage of a guidewire

RETROGRADE ENDOSCOPY



QUESTION #2: NEXT STEP?

1. Cervicostomy
2. Esophagectomy (+ colon interposition)
3. Esophageal reconstitution by simultaneous antegrade/retrograde endoscopy (antegrade puncture with an EUS-needle, passing guidewire and subsequent dilation)
4. Esophageal recanalisation by means of ESD

QUESTION #2: ANSWER

1. Cervicostomy
2. Esophagectomy (+ colon interposition)
3. Esophageal reconstitution by simultaneous antegrade/retrograde endoscopy (antegrade puncture with an EUS-needle, passing guidewire and subsequent dilation)
4. Esophageal recanalisation by means of ESD

COMPLETE ESOPHAGEAL OBSTRUCTION

- Uncommon but severe side-effect of radiotherapy for esophageal and head and neck cancers
- Morbidity +++:
  - ✓ Patients must constantly spit saliva
  - ✓ Depend on feeding tubes for all nutrition and hydration
  - ✓ Those without a tracheostomy risk aspiration
- Risk of esophageal stricture:
  - ✓ 4% after radiation in excess of 45 Gy
  - ✓ 21% in case of concomitant chemotherapy

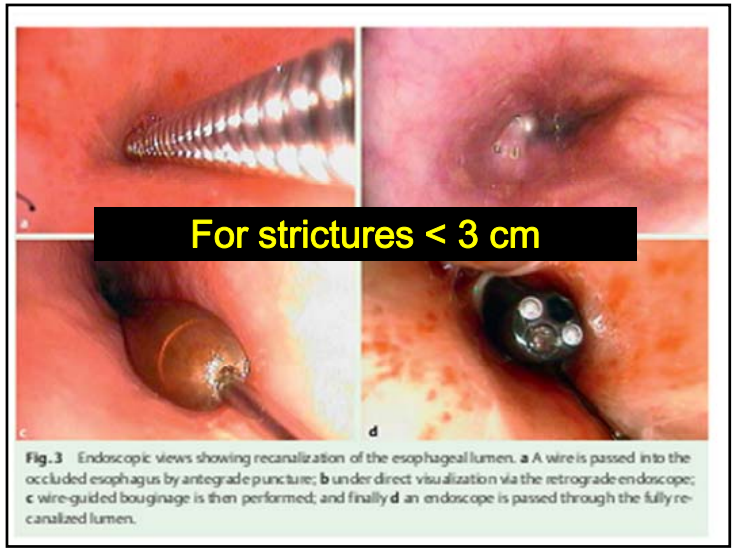


Fig. 3 Endoscopic views showing recanalization of the esophageal lumen. **a** A wire is passed into the occluded esophagus by antegrade puncture; **b** under direct visualization via the retrograde endoscope; **c** wire-guided bouginage is then performed; and finally **d** an endoscope is passed through the fully re-canalized lumen.

THIS CASE?

Endoscopic approach

Retrograde recanalization by means of endoscopic submucosal dissection techniques (ESD)

KEY POINTS IN ENDOSCOPIC RECANALISATION BY ESD

- Dilation of the gastrostomy tract and insertion of a 12 mm trocar to allow access of a standard gastroscope (and standard accessories)
- Submucosal injection at the level of the distal stenosis; submucosal tunneling (DualKnife, Spray Coag); direct visual control to prevent perforation
- Recanalisation of the hypopharynx under endoscopic and fluoroscopic guidance
- Anterograde endoscopy with an ultra-slim 5.9 mm endoscope and passing of a guidewire
- Rendez-vous and 10 mm balloon dilation
- Insertion of a large nasogastric tube to maintain patency for subsequent follow-up endoscopic treatment

POSSIBLE RISKS

- Perforation/pneumomediastinum
- Mediastinitis
- Cervical osteomyelitis
- Peri-esophageal abscess
- Bleeding
- …

FOLLOW-UP

REEPITHELIALISATION?

- After recanalisation (by needle puncture or by ESD), a new tract is established that does not necessarily contain all the elements of an esophageal wall
- In experiments with dogs in which the esophagus was completely transected, new esophageal mucosa eventually regenerated over an indwelling stent, even with a gap of 5 cm

QUESTION #3: PREFERRED TREATMENT FOR THE RESIDUAL STENOSIS?

1. Insertion of a covered metallic 8 or 10 mm biliary stent
2. Fully covered, self-expanding plastic esophageal stent
3. Fully covered SEMS
4. Serial balloon dilation

QUESTION #3: PREFERRED TREATMENT FOR THE RESIDUAL STENOSIS?

1. Insertion of a covered metallic 8 or 10 mm biliary stent
2. Fully covered, self-expanding plastic esophageal stent
3. Fully covered SEMS
4. Serial balloon dilation

Serial dilations are now performed every 6 weeks

CONCLUSIONS

- Long esophageal post-radiation strictures can be managed endoscopically by ESD
- Multidisciplinary approach is required given the possibility of serious complications