# Anastomotic leakage in esophagojejunostomy

Massoud Baghai
Thoracic surgeon
Firoozgar hospital
Iran University of Medical Sciences
Aban 1400

# Definition

A full thickness gastrointestinal defect that can allow the extravasation of GI fluid through the disruption in anastomotic site

- one of the most serious and sometimes life-threatening complications after total gastrectomy
- Management remains controversial and still challenging
- Diagnosis of leakage is based on a combination of clinical and radiological findings

# Incidence

- In one study in Italy among 198 patients it was 7%  (2016)
- In different types of esophagectomy in high volume centers in remains around 9%

  ( Shields)
- In another study in Japan among 131 patients it was 9.9% ( 2018)

# Incidence

- In another report from Japan in 2007 among 390 patient with Roux en Y gesophagojejunostomy it was just 0.5 %.

# Risk factors

Significant factors in the development of a leak:

- Obesity
- Heart failure
- Coronary disease
- Vascular disease
- Tobacco use
- Length of operative time greater than 5 hours

# Risk factors

- Advanced age, age65 years
- Male sex,
- Anemia, hemoglobin 8.0 g/dL
- Malnourishment
- Diabetes with HbA1c  7.0%
- Chronic renal failure
- High visceral fat area
- Use of steroids
- The localization and stage of the tumor

- Poor pulmonary function
- Emergent or reoperative procedures
- Neoadjuvant therapy
- Intraoperative blood transfusion

Did not increase the risk

# Technical factors

- Ischemia
- Tension on the suture line
- Staples anastomosis versus handsewn ( No significant difference)
- Combined splenectomy (?)

# Type of anastomosis

- circular-stapled esophagojejunostomy
- linear staplers : side-to-side esophagojejunostomy
- transorally inserted anvil method
- jejunal pouch reconstruction
- laparoscopic Versus open total gastrecomy:

there was no difference in postoperative complications, including EJAL

# Diagnosis

- Sign and symptoms of abdominal sepsis or mediastinitis
- Drainage of GI content  from abdominal wound or drainage catheter
- Imaging: Ultrasonography, contrast study, CT scan

(Diagnostic sensitivity of the contrast-enhanced swallow study for detecting leaks was 66%.)

# Grading

- class 1: radiographic leak only, requiring no intervention;
- class 2: leak (<10% of circumference) requiring percutaneous drainage;
- class 3: disruption of anastomosis (10–50% circumference) with perianastomotic abscess requiring endoscopic intervention or surgery;
- class 4: necrosis with anastomotic separation (>50% circumference), requiring emergency surgery

# Management

- Early detection and multidisciplinary approaches are the key points
- The interval from leakage to intervention
- an immediate closure of leak within 12-24 h is recommended
- A Computed Tomography (CT) scan or endoscopy is currently the favored method of diagnosis than the swallowing test with contrast

# Management

- conservative treatment,
- endoscopic treatment,
- surgical treatment

Base on the patient's clinical condition, anastomotic level, size of the leakage, timing of diagnosis and margins status

# Conservative treatment

- clinically stable patients with small leakages
- large spectrum intravenous antibiotics, and antifungal treatment
- fasting and nutritional support via the enteral route or TPN

# Endoscopic Treatment

criteria : leaks smaller than 2 cm and <70% of the circumference

stents : variable success rate

self-expanding metal stents : leaks after total gastrectomy

# Nonstent endoscopic methods

- fibrin glue injection and endoclips are designed for endoscopic treatment of EJAL with a high clinical success rate .
- endoluminal vacuum (E-Vac) therapy is a promising new and effective method in the treatment of upper gastrointestinal leaks.

# Surgical treatment

Primary closure of the leak, feeding jejunostomy and revision of anastomosis site

Esophageal Exclusion

# Surgical Treatment

Higher mortality rate compared with conservative and endoscopic approach

This strategy should be performed in the

case of severe sepsis or a large defect with late occurrence

# Thank you for your attention