심포지엄 4

위식도 역류의 외과적 치료

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김 관 민

I. normal antireflux mechanism

1) gastroesophageal pressure barrier
2) anatomic factors of the proximal stomach
3) esophageal clearance mechanism

1. gastroesophageal pressure barrier

1) intrinsic lower esophageal sphincter(LES)
2) extrinsic pressure barrier① intra-abdominal location of LES② the crural fibers of the diaphragm - "pinchcock action"

2. anatomy of the proximal stomach

1) angle of His-"flap valve" mechanism
2) anatomic location & physiologic function of gastric fundus-low pressure reservoir for gastric contents

3. Esophageal clearance

1) clearance by secondary peristaltic waves
2) neutralization by bicarbonate-rich saliva
3) suppression of the swallowing reflex and decreased salivationduring sleep greater mucosal damage in patients with nocturnal reflux

II. Pathophysiology of gastroesophageal reflux disease failure of the normal antireflux barrier

altered upper GI motility associated with impaired esophageal acid clearance and gastric emptying

decreased esophageal mucosal resistance

corrosive properties of the gastric refluxate

*3 main factors in the pathogenesis of reflux disease

Inappropriate transient lower esophageal sphincter relaxation

Decreased resting lower esophageal sphincter tone

Hiatal hernia and related structural abnormalities

III. DIAGnostic Evaluation of GERD

symptoms typical/atypical/complicated

radiology

endoscopy & biopsy

esophageal motor function

24-hour pH monitoring

IV. Surgical management of GERD

1. Surgical indications

1) type II, III, IV Hiatal hernias
2) symptomatic reflux unresponsive to medical treatment
3) complicated GERD: stricture, ulceration,

bleeding4) associated with airway a/o pulmonary complications

4) Barrett's esophagus

2. The principles of antireflux surgery

1) restoration of intra-abdominal esophagus
2) reconstruction of diaphragmatic hiatus
3) reinforcement of the LES by fundoplication

3. Surgical approach

1) transabdominal vs transthoracic
2) laparoscopy vs open technique

4. Fundoplication

1) total: Nissen
2) partial: Belsey Mark IV, Toupet

5. Gastropexy

1) Hill
2) ligamentum gastropexy

6. Gastroplasty: esophageal lengthening procedure

1) Collis procedure
2) uncut gastroplasty

7. Combined operation

1) Collis-Belsey
2) Collis-Nissen

8. Causes of the failed antireflux surgery

1) Patients with Barrett's esophagus large a/o irreducible hiatal hernia short esophagus excessively enlarged hiatusineffective esophageal hiatus
2) Operative approach laparoscopic vs open Nissen vs partial fundoplication esophageal lengthening procedure (Collis)
3) Surgeons' experience

9. Esophagectomy for GERD

1) Indications non-dilatable peptic stricturecomplications of Barrett's esophagus (bleeding, perforation) multiple failed antireflux operations high grade dysplasia in Barrett's esophagus organ failure (contractile amp < 25 mm Hg): relative2) Substitute for esophageal reconstruction stomach colon