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Annex S1. World Endoscopy Organization Minimal Standard Terminology (WEO MST 3.0).

*MST 3.0 (03.08.2016)

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Classifications (not exhaustive)

LA classification of erosive esophagitis

- Grade A Mucosal break <5 mm in length
- Grade B Mucosal break >5 mm
- Grade C Mucosal break continuous between >2 mucosal folds
- Grade D Mucosal break >75% of esophageal circumference

Reference: Lundell L, Dent J, Bennett J, et al. Endoscopic assessment of esophagitis: clinical and functional correlates and further validation of Los Angeles classification. Gut 1999;45:172-80

Size classification of esophageal varices

- grade 1 = small and non-tortuous esophageal varices, flattened with insufflation
- grade 2 = tortuous esophageal varices but covering less than 50% of the radius of the distal esophagus
- grade 3 = large and tortuous esophageal varices covering more than 50% of the radius of the distal esophagus

Reference: Pungpapong S, Keaveny A, Raimondo M, Dickson R, Woodward T, Harnois D, Wallace: Accuracy and interobserver agreement of small-caliber vs. conventional esophagogastroduodenoscopy for evaluating esophageal varices. Endoscopy 2007;39:673-80.

Prague C & M classification of Barretts esophagus extension

The C (Circumferential) and M (maximal) measurements are calculated, respectively, as:

- C = The difference in endoscope insertion distances between the positions recorded for the “GEJ” and the “proximal margin of the circumferential Barretts epithelium”.

- M = The difference in endoscope insertion distances between the positions recorded for the “GEJ” and the “proximal margin for the longest tongue-like” segment of Barretts epithelium (do not include Barretts islands in this assessment).

Reference: Sharma P, Dent J, Armstrong D, Bergman JJ, Gossner L, Hoshihara Y, Jankowski JA, Junghard O, Lundell L, Tytgat GN, Vieth M. The development and validation of an endoscopic grading system for Barrett's esophagus: the Prague C & M criteria. Gastroenterology 2006;131:1392-9.

Paris classification of neoplastic lesions

- type 0 - superficial polypoid, flat/depressed, or excavated tumors
- type 1 - polypoid carcinomas, usually attached on a wide base
- type 2 - ulcerated carcinomas with sharply demarcated and raised margins
- type 3 - ulcerated, infiltrating carcinomas without definite limits
- type 4 - nonulcerated, diffusely infiltrating carcinomas
- type 5 - unclassifiable advanced carcinomas

Reference: The Paris endoscopic classification of superficial neoplastic lesions: esophagus, stomach, and colon (no authors listed). Gastrointestinal Endosc 2003;58:S3-43.

JGCA classification of superficial neoplastic lesions

- Protruding
 - pedunculated 0-1p
 - sessile 0-1s
- Non-protruding and nonexcavated
 - slightly elevated 0-IIa
 - completely flat 0-IIb
 - slightly depressed 0-IIC
 - elevated and depressed types 0-IIc + IIa or IIa + IIc
- Excavated
 - ulcer 0-III
 - excavated and depressed types 0-IIc + III or 0-III + IIc

The distinction between IIa+IIc and IIc+IIa is based on the relative importance of the 2 features. The same applies to the distinction between IIc+III and III+IIc.

Reference: Endoscopic classification review group. Update on the Paris endoscopic classification of superficial neoplastic lesions in the digestive tract. Endoscopy 2005;37:570-8.

Forrest classification of ulcer bleeding

- Forrest Ia: Arterial, spurting hemorrhage
- Forrest Ib: Oozing hemorrhage
- Forrest IIa: Visible vessel g = vessel <2 mm G = vessel >2 mm
- Forrest IIb: Adherent clot
- Forrest IIc: Hematin- covered lesion
- Forrest III: No signs of recent hemorrhage

Reference: Forrest JA, Finlayson ND, Shearman DJ. Endoscopy in gastrointestinal bleeding. Lancet 1974;2:394-7.

Goligher grading of hemorrhoids

- grade 1 - hemorrhoids with bleeding
- grade 2 - hemorrhoids with bleeding and protrusion, with spontaneous reduction
- grade 3 - hemorrhoids with bleeding and protrusion that require manual reduction
- grade 4 - hemorrhoids with prolapse that cannot be replaced

Reference: TR Schrock. Hemorrhoids: nonoperative and interventional management. In: J. Barkin and C.A. O'Phelan, Editors, Advanced therapeutic endoscopy. New York: Raven Press; 1991.

Kudo classification of colon polyp surface pattern

In the large bowel, the organization of the surface epithelium or pit pattern has been analyzed with magnification and contrast and grossly classified into 5 patterns or types, which can be grouped into 3 categories: type I and type II (non-neoplastic); type IIIS, IIIL, and IV (low-grade and high-grade intramucosal neoplasia); and type V, with distorted epithelial crests or an amorphous surface (carcinoma with suspicion of submucosal invasion).

Reference: Please see images in Kudo S, Hirota S, Nakajima T, Hosobe S, Kusaka H, Kobayashi, et al. Colorectal tumours and pit pattern. J Clin Pathol 1994;47:880-5.

Bismuth classification of cholangiocarcinoma

- Type I : Extrahepatic involvement only
- Type II : Extrahepatic and hilar involvement
- Type IIIa: Extrahepatic, hilar and right-sided segmental involvement
- Type IIIb: Extrahepatic, hilar and left-sided segmental involvement
- Type IV: Extrahepatic and bilateral segmental involvement

Reference: Bismuth H, Castaing D, Traynor O. Resection or palliation: priority of surgery in the treatment of hilar cancer. World J Surg 1988;12:39-47.

Definitions of the esophagogastric region

The distal esophagus and the proximal part of the stomach or gastric cardia, constitute the esophagogastric region, with specific anatomical landmarks. There are no conspicuous proximal and distal limits of the esophagogastric region.

The landmarks are selected arbitrarily: 2 cm above and below the EGJ is a frequent standard.

The EGJ (esophagogastric junction) is the point where the tubular esophagus joins the stomach at the cardia, with an angle between the opened esophagus and the gastric greater curvature.

Other markers of the EGJ include the proximal extent of the gastric folds and the distal extent of longitudinal palisade vessels.

The SCJ (squamo-columnar junction, Z-line) represents the transition between esophageal squamous epithelium and the more reddish columnar epithelium. In the normal situation, this conspicuous landmark is located in the distal esophagus, just above the pinch of the diaphragm and the dilated lumen of the stomach (Diagram 1).

In endoscopic vision, the normal esophagus is covered with a pale pink epithelium with an even surface; the stomach is covered with a darker epithelium with crests and pits.

In the presence of a hiatal hernia, the relative positions of the 3 endoscopic landmarks have been changed due to the intra-thoracic location of the proximal stomach. The SCJ and the anatomical junction of the esophagus with the stomach have moved to a position frankly proximal to the pinch of the diaphragm. However, the SCJ and the EGJ still coincide.

The size of the hiatal hernia is measured from the EGJ to the impression of the hiatus of the diaphragm. In the presence of columnar metaplasia of the esophagus, the SCJ is located proximally to the EGJ (the anatomical junction of the esophagus and stomach). With the (histological) verification of intestinal metaplasia with goblet cells, this is called Barrett's esophagus. The extension of the metaplasia is described using the Prague C&M classification (see above).

Adapted from: Sharma P, Dent J, Armstrong D, Bergman JJ, Gossner L, Hoshihara Y, Jankowski JA, Junghard O, Lundell L, Tytgat GN, Vieth M. The development and validation of an endoscopic grading system for Barrett's esophagus: the Prague C & M criteria. Gastroenterology 2006;131:1392-9.