

Gastric Cancer Risk Assessment Test (ABCD Classification)

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What is ABCD Classification?

Gastric Cancer Risk Assessment Test (ABCD classification) is a method for determining the health status of the stomach of an individual by means of a combination of a **pepsinogen test** (as a gastric mucosal atrophy marker) and a **Helicobacter pylori antibody test** to detect *H. pylori* infections (considered to be the main cause of gastric ulcers, duodenal ulcers, and gastric cancers). However, the ABCD classification is not applied to individuals who have received treatment to eradicate *H. pylori*, regardless of the result of the treatment.

These previously treated individuals should be assigned to Group E (eradication group), so it is important to confirm the "status of eradication" during the medical interview, or at another appropriate time.

What is pepsinogen (PG) test?

A pepsinogen (PG) test is a blood test designed to objectively evaluate the health status (degree of mucosal atrophy) of the stomach by measuring the serum concentration of a substance called "pepsinogen".

Many gastric cancer cases are shown to develop subsequent to gastric mucosal atrophy, the extent of which can be estimated using the pepsinogen test, and the test results can be utilized to screen individuals for increased risk of gastric cancer.

What is an H. Pylori Antibody Test?

An *H. pylori* test is a test to detect *H. pylori* infections of the gastric mucosa. When infected with *H. pylori*, the body produces antibodies against *H. pylori* (*H. pylori* antibodies) which are released into the blood and urine. This antibody test is a method for measuring the amounts of these *H. pylori* antibodies in the blood and urine of the individual.

ABCD Classification		<i>H.pylori</i> test (antibody)	
		(-)	(+)
PG test	(-)	Group A	Group B
	(+)	Group D	Group C

Confirmation of the "status of eradication" by medical interview, etc.

Individuals who have received treatment to eradicate *H. pylori* are not evaluated using the ABCD classification, regardless of the result of the treatment.

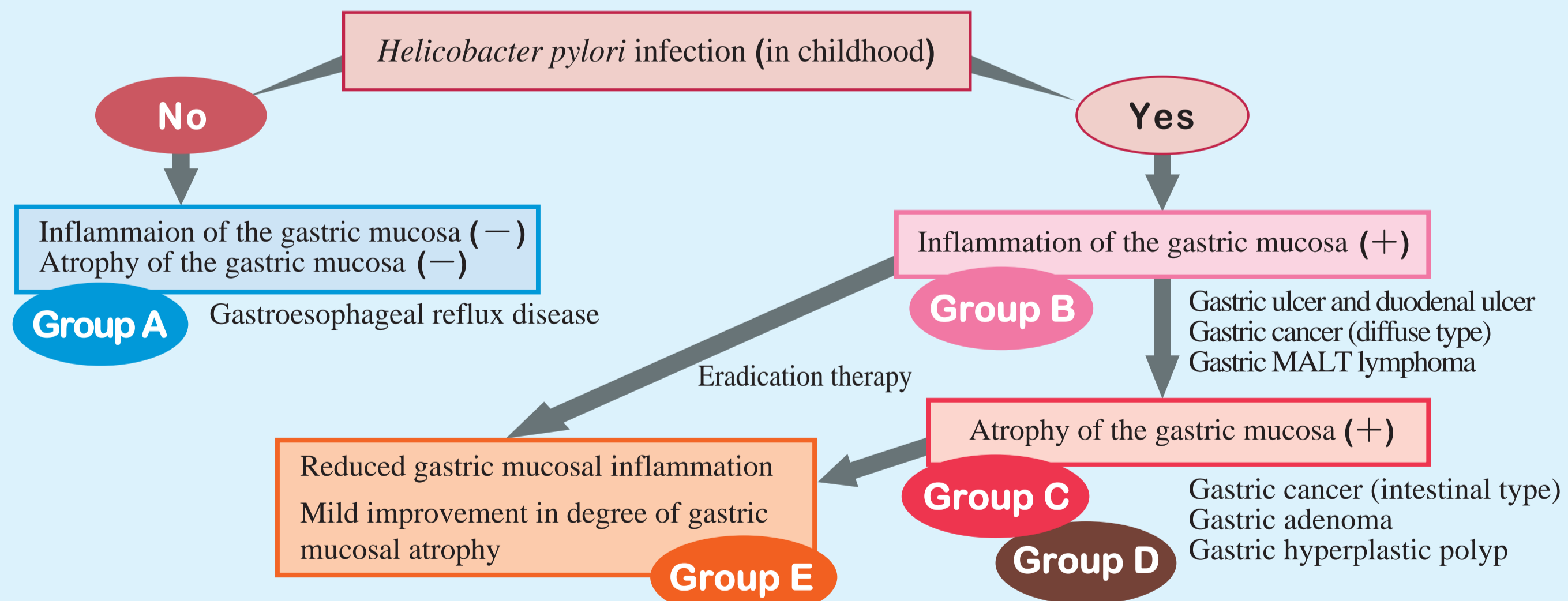
Exclusion from Determination of ABCD Classification

They should be assigned to **Group E**.
Group E : Eradication group

Caution in interpreting the PG test should be used for individuals who:

- received eradication therapy for *H.pylori*
- have obvious upper gastrointestinal symptoms
- are under treatment for upper gastrointestinal disease
- are taking proton pump inhibitors (PPI)
- received gastrectomy
- had renal failure

Helicobacter pylori Infection & Diseases



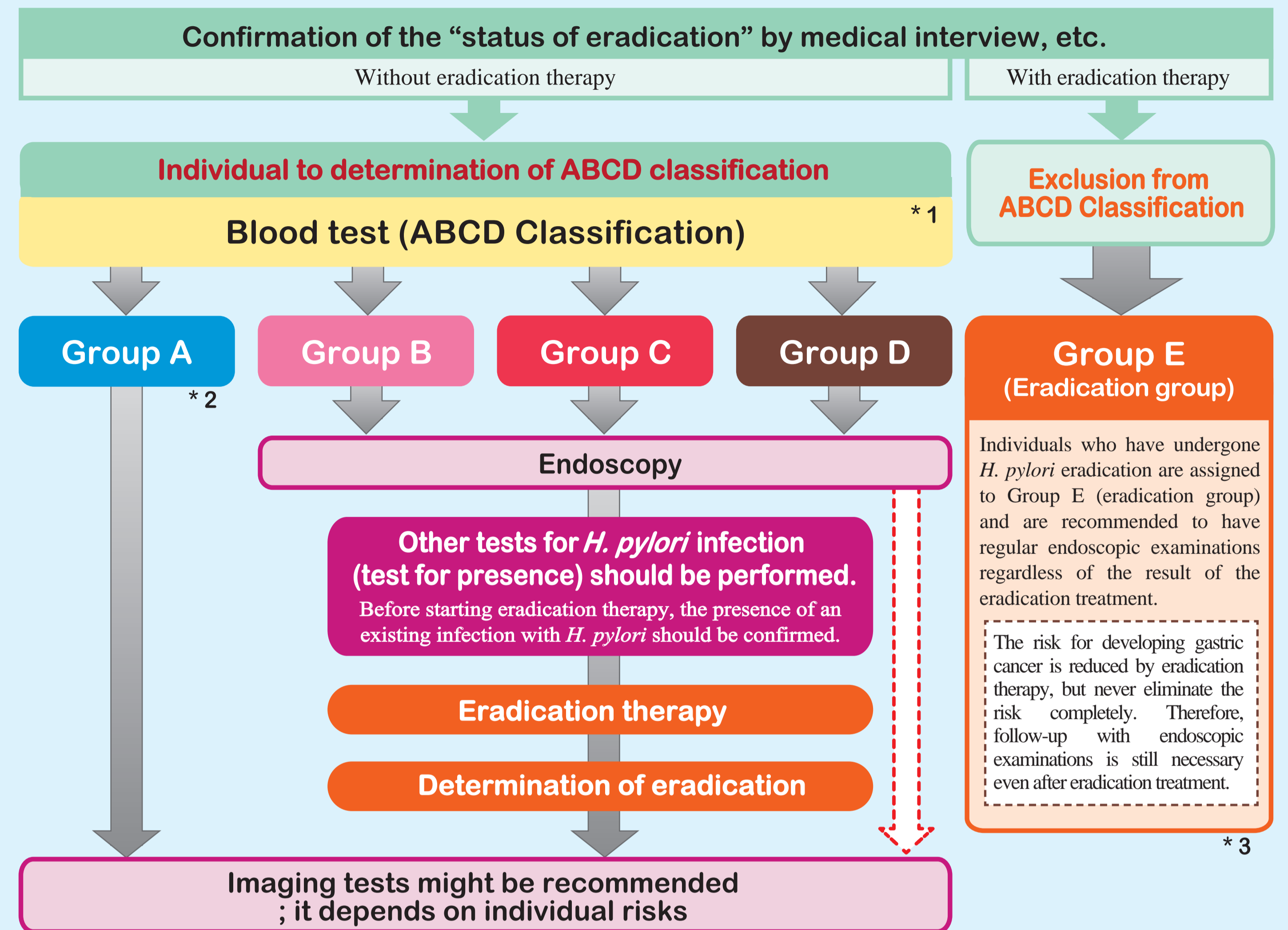
(Kazuhiko Inoue (2015). Effects of Eradication Therapy on Risk Category of Gastric Cancer - ABC Classification is a Gateway for Gastric Cancer Screening - Nobuhiro Sakaki (Editor) The Perfect Guide to *H. Pylori* Eradication Therapy. Japan Medical Journal. pp. 181-183)

It has been shown that *H. pylori* infection occurs during infancy or **childhood (until the age of 4-5 years)** when gastric acid secretion and the immune capacity of the gastric mucosa are not fully developed. Chronic *H. pylori* infection in adults is believed to be rare, when no *H. pylori* infection occurs in childhood.

Infection with *H. pylori* causes inflammation of the gastric mucosa, which may lead to development of peptic ulcer, gastric MALT lymphoma, or undifferentiated-type gastric cancer. Gastric mucosal atrophy then develops and becomes the geneses of gastric adenoma, hyperplastic polyps, and gastric cancers. Not all individuals infected with *H. pylori* will have stomach diseases; the frequency of gastric cancer development is approximately 0.5% per year.

Eradication of *H. pylori* suppresses the recurrence of ulcers and reduces the risk for gastric cancer, but not eliminate the risk completely.

Suggestion of Flow for Gastric Cancer Risk Assessment Test (ABCD Classification)



*1. For determination of the ABCD classification, test methods and measured values for the *H. pylori* antibody test and the pepsinogen test (e.g. EIA, LA, CLEIA) should be reported.

*2. It is recommended that individuals assigned to Group A also undergo an imaging test at least once to determine the status of infection with *H. pylori*, and to evaluate the risk for developing gastric cancer with more certainty.

*3. Individuals who have received eradication therapy are assigned to "Group E". Only the measured values of the *H. pylori* antibody test and the pepsinogen test should be reported, with no determination of the ABCD classification.

Group A The gastric mucosa is generally healthy and there is a low risk for gastric diseases. Caution should be exercised to distinguish *H. pylori* infections from diseases unrelated to *H. pylori* such as reflux esophagitis. It is likely that individuals in Group A are not infected with *H. pylori* but some may have existing or previous *H. pylori* infections. It is preferable that such individuals undergo imaging tests including endoscopy at least once.

Group B The gastric mucosa is somewhat damaged. Caution should be exercised to distinguish between gastric ulcers and duodenal ulcers. These individuals also have an increased risk of developing gastric cancer. An endoscopic examination is recommended. *H. pylori* eradication therapy is usually recommended.

Group C The gastric mucosa is clearly damaged and exhibit advanced atrophy. The individuals have high risk for developing gastric cancer. Regular endoscopic examinations are recommended. *H. pylori* eradication therapy is recommended.

Group D The gastric mucosa is considered as highly advanced atrophy. The individuals have extremely high risk for affecting diseases such as gastric cancer. Examination for the presence of *H. pylori* infection is recommended. Ensure that the individuals undergo disease visualization examinations, such as endoscopy, and that the individuals consult a physician at a specialized medical institution.

ABCD Classification is the primarily test to stratify the risk for gastric cancer and should be clearly distinguished from gastric cancer screening that is performed to determine the exist or absence of gastric cancer. It is essential to properly inform individuals about the necessity of undergoing appropriate imaging tests such as endoscopy and stomach X-ray for diagnosis of organic diseases, such as gastric cancer.