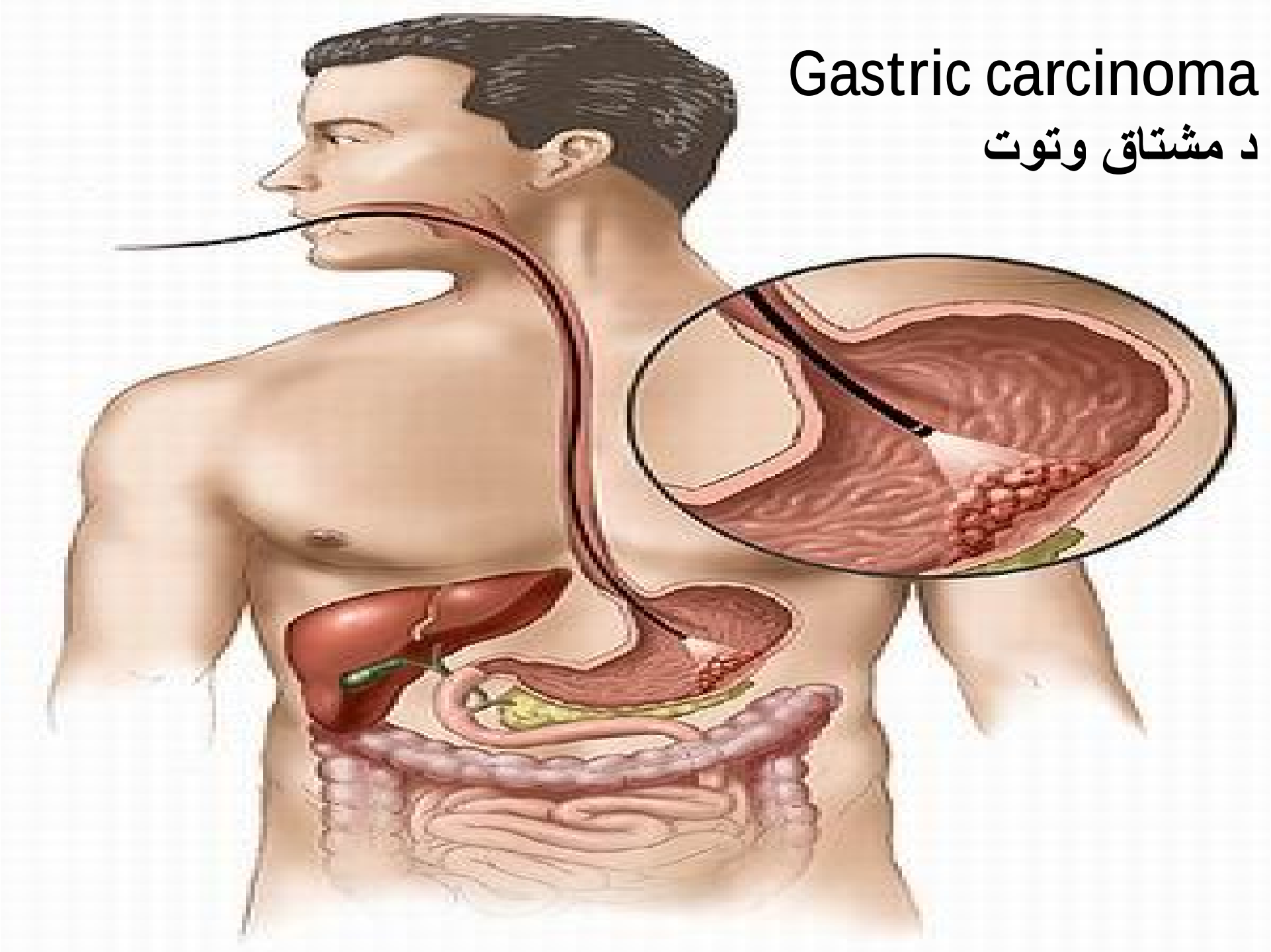
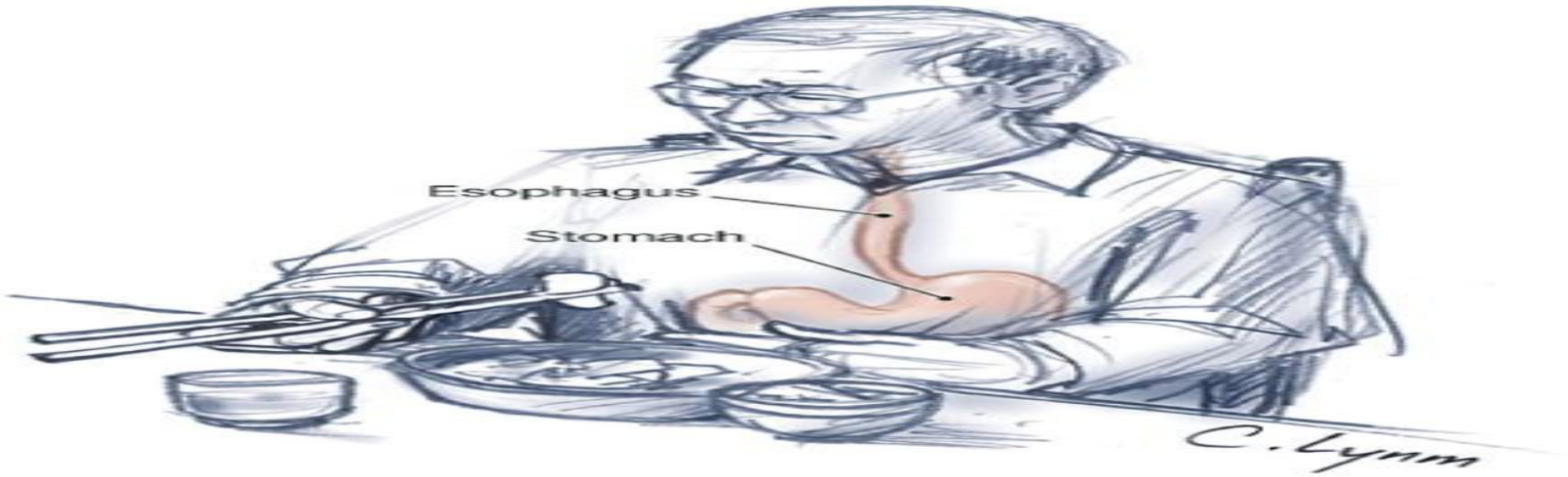
Gastric carcinoma

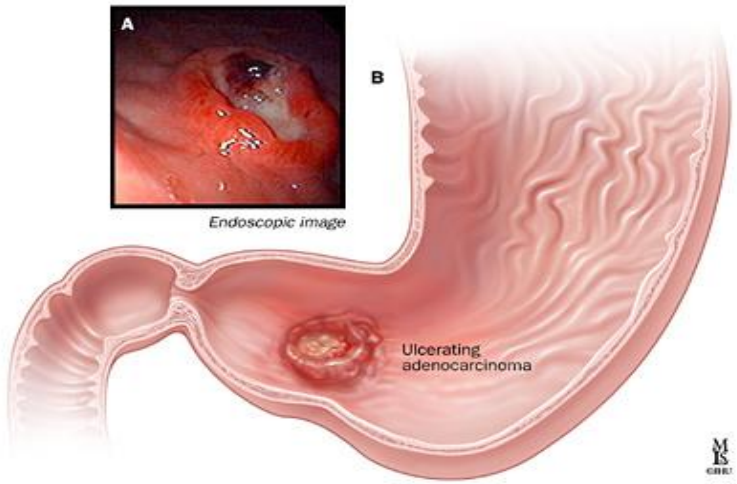
د مشتاق وتوت





- ()its the leading cause of cancer death world-wide, but there is marked geographical variation in incidence.
- () It is extremely common in China, Japan and parts of South America (mortality rate 30-40 per 100 000)
- ()Studies of Japanese migrants to the USA have revealed a much lower incidence in second-generation migrants, confirming the importance of environmental factors.
  ()Gastric cancer is more common in men and the incidence rises sharply after 50 years of age.
- ()The overall prognosis is poor, with less than 30% surviving 5 years.

Pathophysiology



- *1- H. pylori* infection may be responsible for 60-70% of cases:
  - *hypo- or achlorhydric
  - *Chronic inflammation with generation of reactive oxygen species
  - *depletion of the normally abundant antioxidant ascorbic acid are also important.

- 2- Diets rich in salted, smoked or pickled foods and the consumption of nitrites and nitrates may increase cancer risk. Carcinogenic N-nitroso-compounds are formed from nitrates by the action of nitrite-reducing bacteria which colonise the achlorhydric stomach.
- Diets lacking fresh fruit and vegetables as well as vitamins C and A may also contribute.

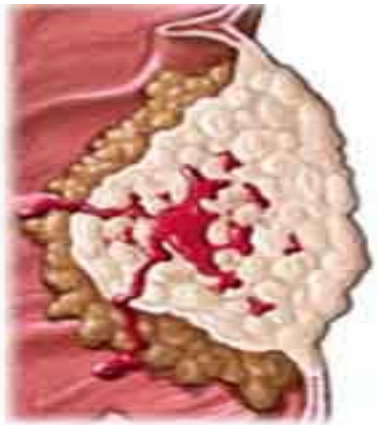
3- No predominant genetic abnormality has been identified, although

- *cancer risk is increased two- to threefold in first-degree relatives of patients
- * links with blood group A have been reported.
- *Rare 'gastric cancer families' in which diffuse gastric cancers occur in association with mutations of the *E-cadherin* (CDH1) gene. This is inherited as an autosomal dominant trait..

pathogenesis

- ()The tumours are adenocarcinomas arising from mucus-secreting cells in the base of the gastric crypts.
- ()Most develop upon a background of chronic atrophic gastritis with intestinal metaplasia and dysplasia.
- ()In the developing world 50% of gastric cancers develop in the antrum, 20-30% occur in the gastric body, often on the greater curve, and 20% are found in the cardia
- () Macroscopically, tumours may be classified as polypoid, ulcerating, fungating or diffuse. Diffuse submucosal infiltration by a scirrhous cancer (linitis plastica) is uncommon.

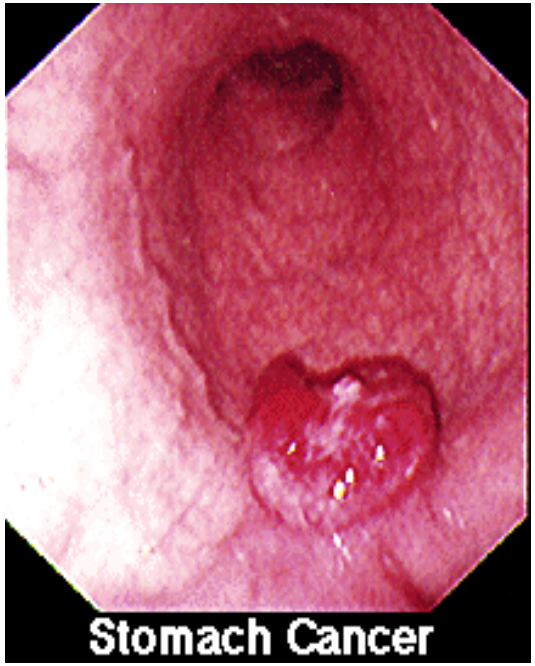
Stage I

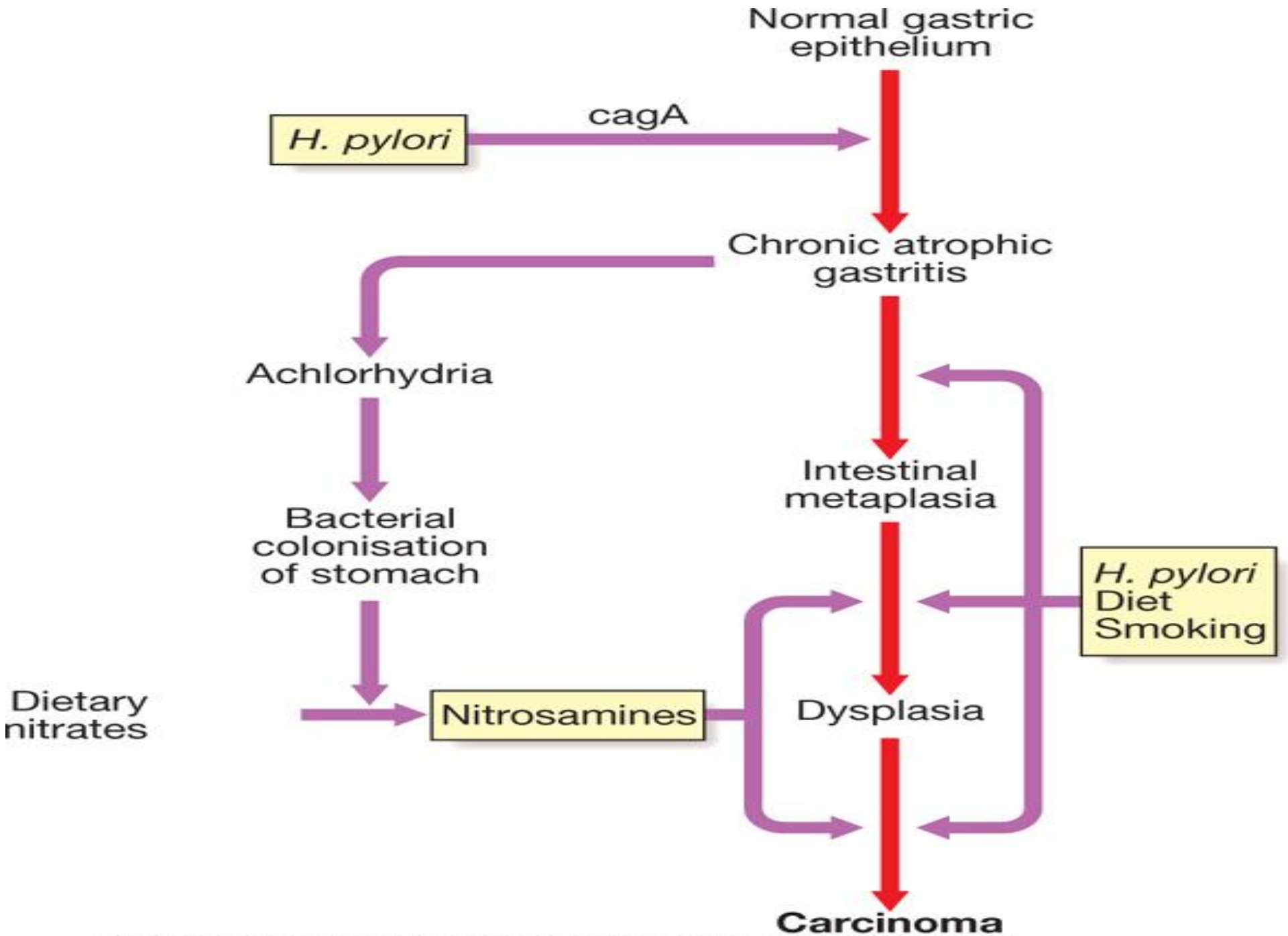


Stage II

Risk factors for gastric cancer

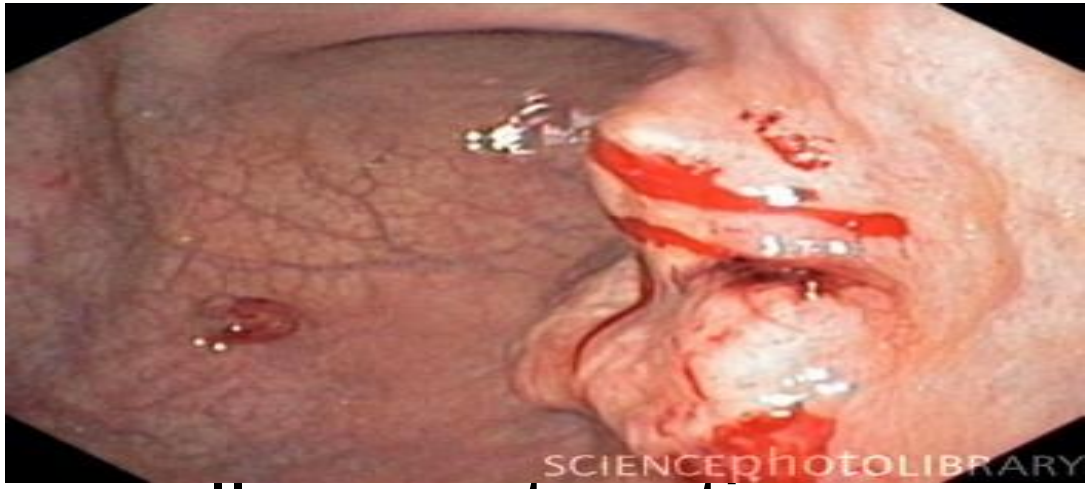
- *H. pylori*
- Smoking
- Alcohol
- Dietary associations
- Autoimmune gastritis (pernicious anaemia)
- Adenomatous gastric polyps
- Previous partial gastrectomy (> 20 years)
- Ménétrier's disease
- Hereditary diffuse gastric cancer families
- Familial adenomatous polyposis (FAP)
- Epstein-Barr virus
- Obesity: increases the risk of gastric cardia cancer
- Radiation exposure
- Bisphosphonates



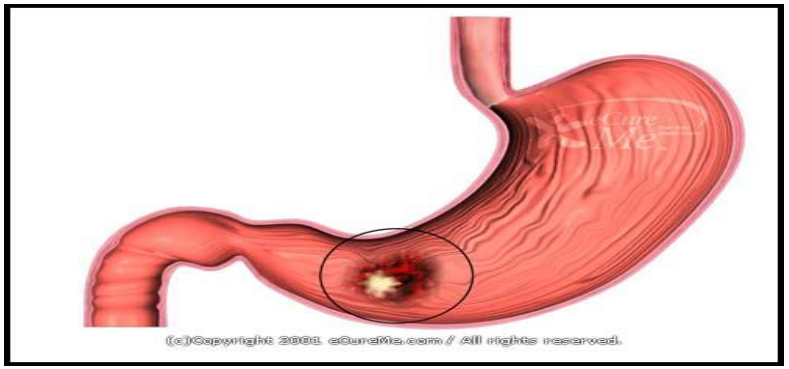


Colledge et al: Davidson's Principles and Practice of Medicine, 21st Edition

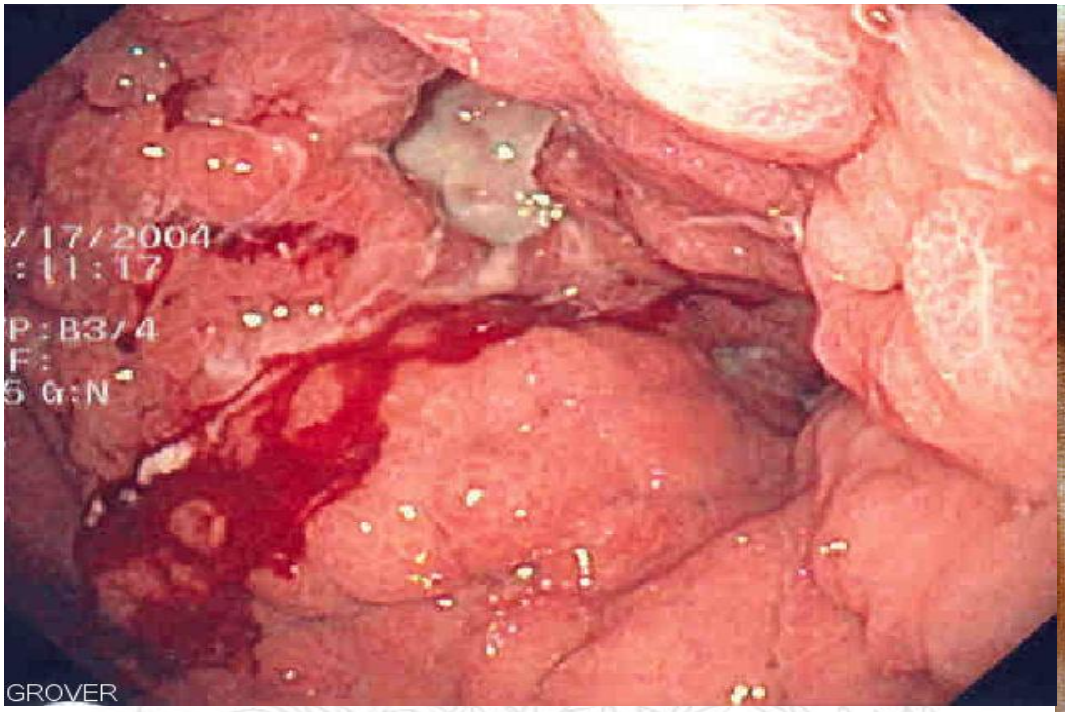
Clinical features

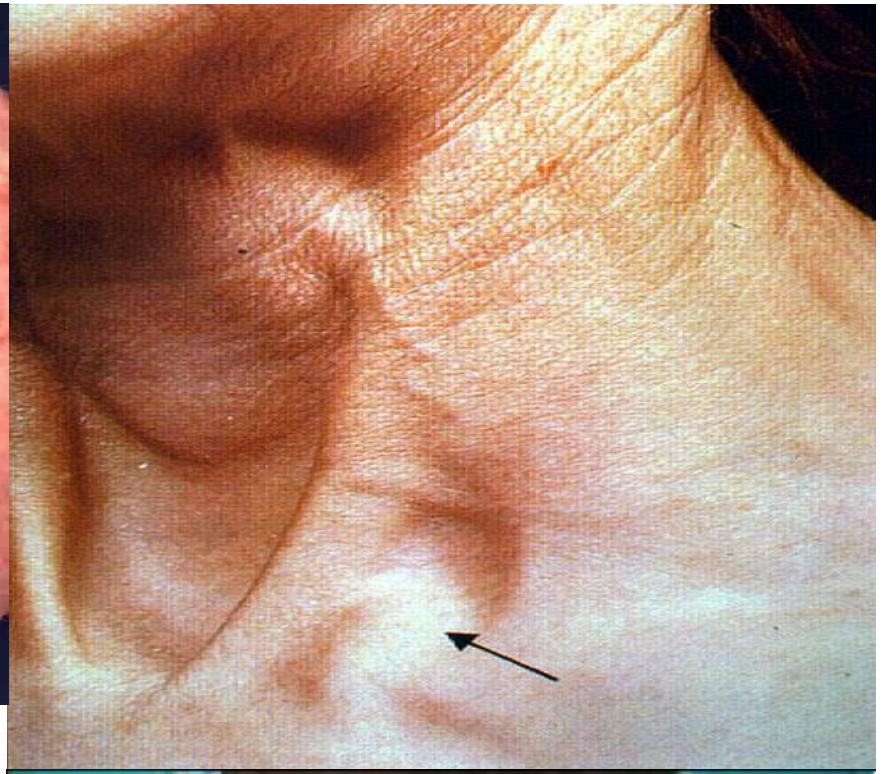


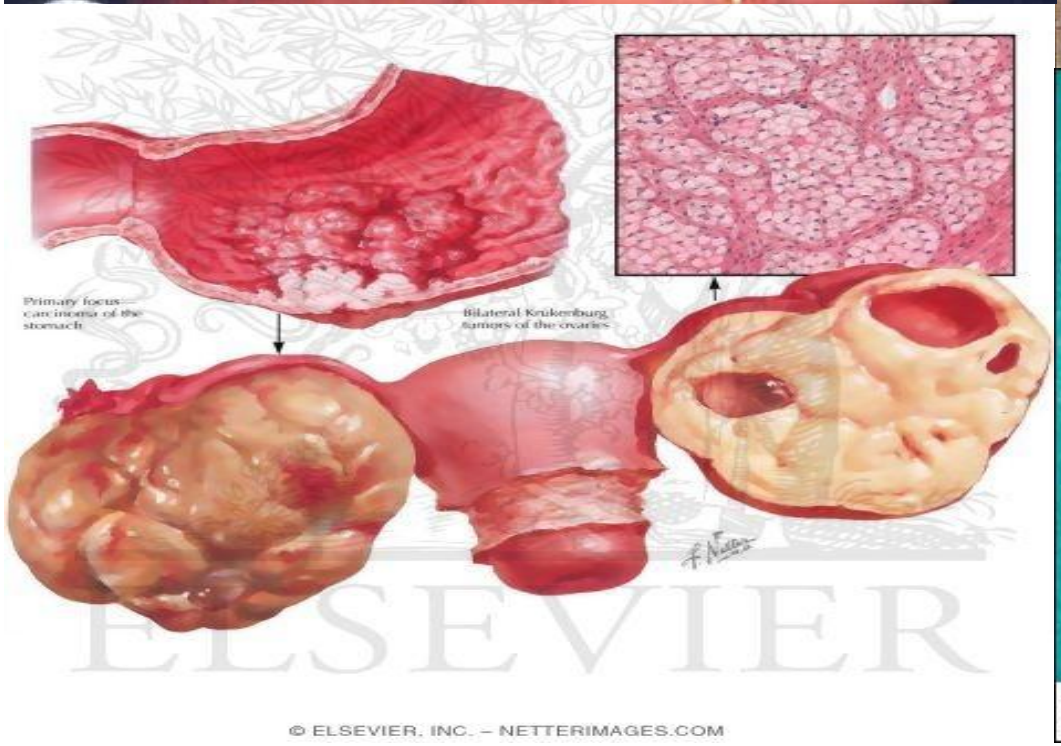
- Early gastric cancer is usually asymptomatic .
- Two-thirds of patients with advanced cancers have weight loss and 50% have ulcer-like pain.
- Anorexia and nausea occur in one-third, while early satiety, haematemesis, melaena and dyspepsia alone are less common features.
- Dysphagia occurs in tumours of the gastric cardia which obstruct the gastro-oesophageal junction.
- Anaemia from occult bleeding is also common.



- Examination may reveal no abnormalities, but signs of weight loss, anaemia or a palpable epigastric mass are not infrequent. Jaundice or ascites may signify metastatic spread.
- Occasionally, tumour spread occurs to the supraclavicular lymph nodes (Troisier's sign), umbilicus ('Sister Joseph's nodule') or ovaries (Krukenberg tumour).
- Paraneoplastic phenomena, such as acanthosis nigricans, thrombophlebitis (Trousseau's sign) and dermatomyositis, occur rarely.
- Metastases occur most commonly in the liver, lungs, peritoneum and bone marrow.







Investigations

- Upper gastrointestinal endoscopy is the investigation of choice and should be performed promptly in any dyspeptic patient with 'alarm features' .
- Multiple biopsies from the edge and base of a gastric ulcer are required.
- CT may not demonstrate small involved lymph nodes, but will show evidence of intra-abdominal spread or liver metastases.
- laparoscopy is required to determine whether the tumour is resectable, as it is the only modality that will reliably detect peritoneal spread.
- Endoscopic ultrasound allows for a more precise preoperative assessment of the tumor stage.

Management

Surgery

- Resection offers the only hope of cure, which can be achieved in 90% of patients with early gastric cancer.
- For the majority who have locally advanced disease radical and total gastrectomy with lymphadenectomy is the operation of choice
- Proximal tumours involving the oesophago-gastric junction require an associated distal oesophagectomy.
- Recent evidence suggests that perioperative chemotherapy with epirubicin, cisplatin and fluorouracil (ECF) improves survival rates.

Palliative treatment

- In patients with inoperable tumours, palliation of symptoms can sometimes be achieved with chemotherapy using FAM (5-fluorouracil, doxorubicin and mitomycin C).
- Endoscopic laser ablation for control of dysphagia or recurrent bleeding benefits some patients.
- Carcinomas at the cardia or pylorus may require endoscopic dilatation, laser therapy or insertion of expandable metallic stents for relief of dysphagia or vomiting.
- A nasogastric tube may offer temporary relief of vomiting from gastric outlet obstruction .

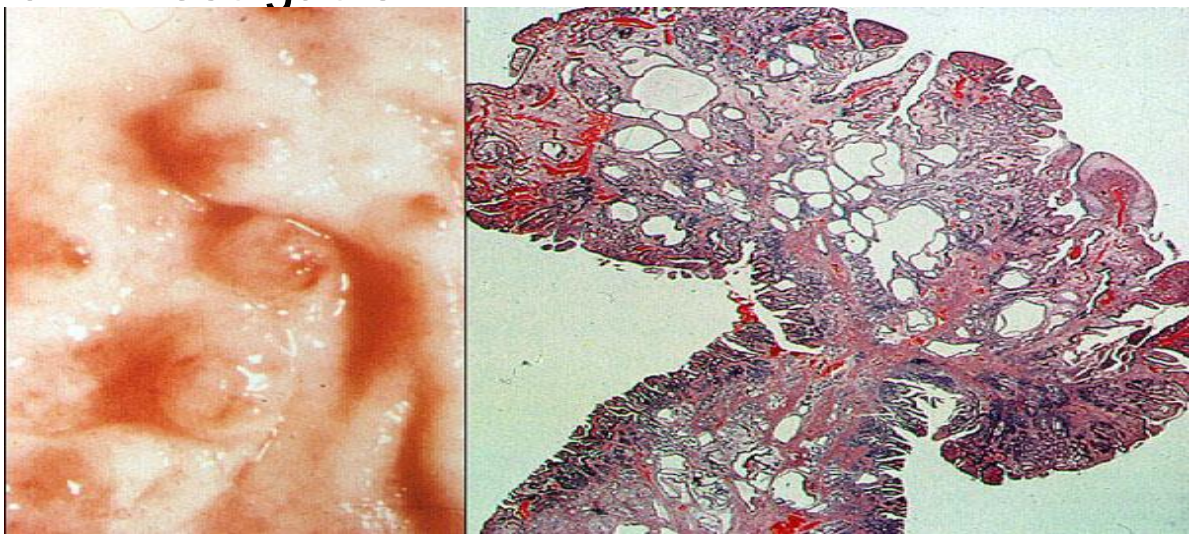
Gastrointestinal stromal cell tumours (GIST)

() arising from the interstitial cells of Cajal are occasionally found at upper gastrointestinal endoscopy.

They are differentiated from other mesenchymal tumours

They are usually benign and asymptomatic, but may occasionally be responsible for dyspepsia; they can also ulcerate and cause gastrointestinal bleeding.

- A variety of polyps occur.
- EUS is the most useful investigation.



Thank you •