

Gastric Neoplasms

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GI Core Curriculum Series

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Initial Thoughts

- All polyps come from the colon
- I snare..... therefore I am
- Rectum..... darn near killed 'em

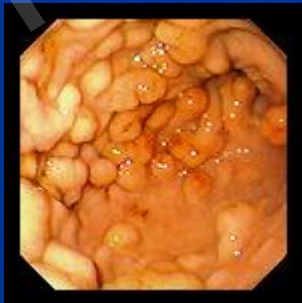
Good vs. Bad

B9 vs. Neoplastic

Learning Goals

- Learn about the epidemiology, pathogenesis, clinical manifestations and management of gastric polyps.
- Learn about the epidemiology, predisposing factors, diagnosis and prognosis of gastric adenocarcinoma.
- Understand the types, prognosis and treatment of gastric lymphomas.

Gastric Polyps



Gastric Polyps: Epidemiology

- Incidence 1.2% based on study of 13,000 adults
- Hyperplastic 75.6%
- Adenomatous 6.6%
- Inflammatory 17.8%
- No adenomas age < 50

Archimandritis, A, Spiliadis, C, Tzivras, M, et al. Gastric epithelial polyps. Ital J Gastroenterol 1996; 28:387.

Pathogenesis

- One theory about the genesis of hyperplastic polyps suggests mucosal "irritation" or chronic inflammation.
- This hypothesis is supported by a report which found that hyperplastic polyps developed in 4 of 60 patients (7 percent) who underwent photoablation therapy for watermelon stomach (GAVE).

Geller, A, Gostout, CJ, Balm, RK, et al. Development of hyperplastic polyps following laser therapy for watermelon stomach. Gastrointest Endosc 1996; 43:54.

Pathogenesis

- Likely that infection with *Helicobacter pylori* is responsible for the development of hyperplastic polyps in some patients, since its eradication has been associated with polyp regression.
- Long-term therapy with PPIs has also been linked to the development of fundic gland hyperplastic, and carcinoid polyps (not sig. after adjusting for *H. Pylori*).

Hattori, T. Morphological range of hyperplastic polyps and carcinomas arising in hyperplastic polyps of the stomach. *J Clin Pathol* 1985; 38:622.

Daibo, M, Hirota, T. Malignant transformation of gastric hyperplastic polyps. *Am J Gastroenterol* 1987; 82:1916.

Pathogenesis

- PPIs may contribute to the increasing incidence of carcinoid gastric polyps, although a clear relationship has not been established.
- The probable mediator for polyp development in this setting is a low acid state which leads to hypergastrinemia; gastrin has a potent growth-hormone trophic effect on gastric mucosa.

Pathogenesis Summary

Chronic Irritation and Inflammation

Who Knows????

Malignant Potential

- Adenomatous polyps- 10% (usually >2cm)
- Adenomatous polyps usually occur in the setting of chronic atrophic gastritis and tend to grow larger
- Hyperplastic- generally B9, focal carcinoma found in 2% in one study, but invasive cancer rare

Management

- Because of the risk for cancer, all gastric polyps should ideally be removed and examined microscopically for histologic characterization.
- Forceps biopsy alone may not be sufficient for an accurate histologic diagnosis.

Muehldorfer, SM, Stolte, M, Martus, P, et al. Diagnostic accuracy of forceps biopsy versus polypectomy for gastric polyps: A prospective multicentre study. Gut 2002; 50:465.

Management

- Eradicate H. Pylori (80% vs. 0% regression) in patients with hyperplastic polyps (small study)
- Adenomatous polyp = colonoscopy
- Surveillance ? Interval q 3 years

Gastric Polyp Summary

- Rare- incidence of 1.2%
- Usually found incidentally
- Malignant potential greater with adenomatous polyps which are larger
- All polyps should be removed
- Surveillance 1 year after adenomatous resection (ASGE guideline) and colonoscopy. Otherwise EGD in 3 years.

Gastric Adenocarcinoma



Intro

- Most gastric cancers are diagnosed in symptomatic patients presenting with advanced incurable disease.
- Surgically curable lesions are usually asymptomatic, and rarely detected outside the realm of a screening program.

CLINICAL FEATURES

- Weight loss and persistent abdominal pain are the most common symptoms at initial diagnosis.
- Abdominal pain tends to be vague and mild early in the disease, but more severe and constant as the disease progresses.
- Dysphagia is a common presenting symptom in patients with cancers arising in the gastric cardia or at the esophagogastric junction.
- SCOPE THEM!!

Epidemiology

- 2nd most common cancer worldwide 750k/yr
- 2nd in worldwide cancer death behind lung
- In US it was most common cancer mortality until 1930s
- Currently 22k new cases in US yearly
- 8th leading cancer-related mortality in US men
- Incidence highest in Japan (8x US)

Etiology

- Likely multiple etiologic factors
- Multistep progression
- Chronic gastritis -> atrophic gastritis -> intestinal metaplasia -> dysplasia -> cancer

Environmental Factors

- Nitrates and nitrites
- Hi salt causes atrophic gastritis in animals
- Carbohydrates
- Lower risk with fresh fruits and vegetables



Genetic Factors

- Families with high rates of gastric cancer (Lynch syndrome II)
- 1st degree relatives of patients with gastric cancer have a 2-3 fold greater incidence



H. Pylori

- Most common known cause of chronic gastritis
- Group I carcinogen (must treat if find it!!)
- OR of gastric cancer in HP is 1.92 (highest in younger subgroup- 9.2 when age < 29)



Pernicious Anemia

- Autoimmune type of gastritis
- 2-3 fold increased risk of gastric cancer
- An increased risk of carcinoid tumors has also been reported (maybe related to prolonged acid suppression)

DIAGNOSIS

- During endoscopy, any suspicious-appearing gastric ulcer or mass should be biopsied.
- A single biopsy has a 70 percent sensitivity for diagnosing gastric cancer, and performing seven biopsies from an ulcer margin and base increases the sensitivity to greater than 98 percent.

Graham, DY, Schwarz, JT, Cain, GD, Gyorky, F. Prospective evaluation of biopsy number in the diagnosis of esophageal and gastric carcinoma. Gastroenterology 1982; 82:228.

Follow-up endoscopy for gastric ulcers????????

- Sensitivity of the seven biopsy technique is excellent
- One study of 67 gastric cancers, 98.5% were correctly identified as malignant by their appearance and/or by histology on initial endoscopy
- Larger study found that surgically curable early gastric cancers were likely to be missed by relying on appearance and histology alone, so follow-up EGD with repeat biopsy of unhealed ulcers was essential for diagnosing early lesions

Pruitt, RE, Truss, CD. Endoscopy, gastric ulcer, and gastric cancer. Follow-up endoscopy for all gastric ulcers? Dig Dis Sci 1993; 38:284

Bytzer, P. Endoscopic follow-up study of gastric ulcer to detect malignancy: Is it worthwhile? Scand J Gastroenterol 1991; 26:1193

Followup EGD for Ulcers

- ASGE recommends follow-up endoscopy 8 to 12 weeks after initial endoscopy and initiation of therapy to verify healing, with repeat biopsies performed on remaining ulcers.



Staging

■ CT scan

- CT has the advantage of being widely available and noninvasive, but it is not very accurate for assessing the depth of invasion or the presence of lymph node involvement (stage 50%)

■ EUS

- Accuracy of 77 percent for staging the depth of invasion and 69 percent for nodal stage.
- Most inaccuracies are due to understaging nodal involvement and the depth of invasion.

Prognosis

5 Year survival

- Stage 0- 90%
- Stage I- 80%
- Stage III- 20%
- Stage IV- 5%

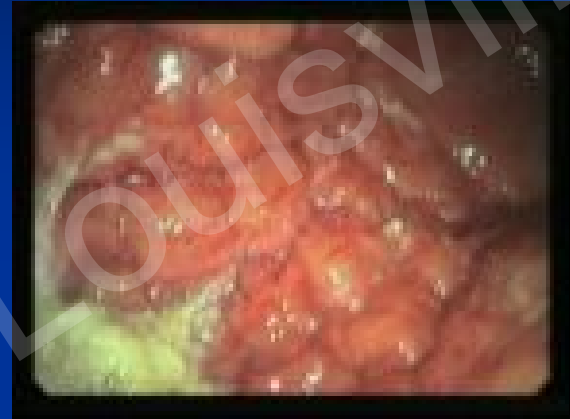
Treatment of Gastric Cancer

- Surgery is the mainstay
- XRT for palliation
- Chemo only modest results



Linitis Plastica

- Infiltrating adenocarcinoma that spreads diffusely throughout the stomach
- Stomach nondistensible
- Occurs in up to 10% of adenocarcinomas
- Metastatic dz usually present at time of diagnosis



Gastric Lymphoma



Gastric Lymphomas

- Less than 5% of gastric malignancies
- 2nd most common gastric malignancy
- Stomach is most common *extranodal* site for occurrence of lymphoma
- Endoscopically difficult to differentiate from adenocarcinoma
- If lymphoma is suspected, extra biopsies for immunoperoxidase staining should be done

Types of Gastric Lymphomas

- Most are B cell in origin
- Hodgkin's dz of stomach is uncommon
- Subtype of B-cell lymphoma is MALToma

Prognosis & Treatment

- 5 year survival rate of 50% for all lymphomas
- Stage I or II and size < 5cm has 80% 10 yr survival rate
- Partial gastrectomy for stage I
- Chemo for stage II-IV

MALTomas

- Low grade B-cell lymphoma associated with HP 90% of the time
- Even for experienced GI, diagnosis can be difficult because surface may appear normal or have only erosions, subtle nodularity, ulcerations, or a protruding mass.

MALToma Treatment

- Low grade- eradicate HP- clinical studies show complete remission 50-90% of time
- TX c amoxicillin (or flagyl), clarithromycin and PPI for 10-14 days
- Frequent EGDs for followup
- No remission = referral to oncologist

Miscellaneous Gastric Neoplasms

- Gastric Carcinoid Tumors
- Gastrointestinal Stromal Cell Tumors (GISTs)
- Metastatic Tumors

Gastric Carcinoid Tumors

- Rare, only 0.3% of all gastric tumors
- Occur more frequently with pernicious anemia and atrophic gastritis
- More common with ZE
- Slow growing and low invasive or metastatic potential
- Lesions smaller than 1cm can be removed endoscopically

GIST

- Rare submucosal GI tumors most commonly found in stomach
- Most GISTs are thought to be of smooth muscle and include leiomyomas and leiomyosarcomas
- EUS is used for determining submucosal nature and invasion. Can also use FNA for diagnosis
- Surgery to cure

Metastatic Tumors

- Malignant melanoma- elevated black nodule
- Also consider breast, lung, ovary, testis, liver, colon

Key Points

- Endoscopic polyp appearance cannot differentiate histological subtypes, so biopsy is recommended
- Biopsy largest when multiple polyps encountered
- Eradicate HP when found
- Clinical features of gastric cancer are vague and nonspecific

Board Questions

University of Louisville

Which would you NOT snare?

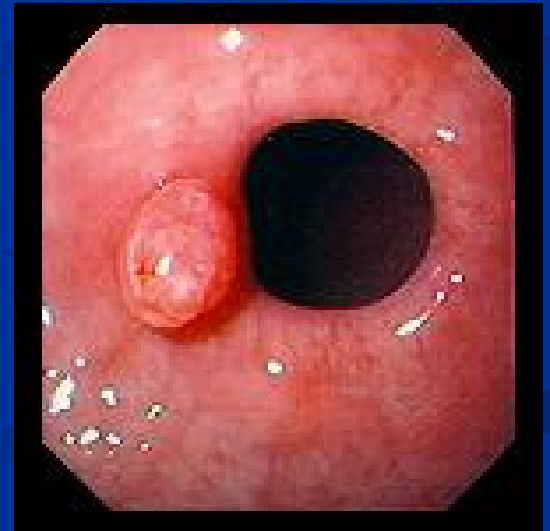
A



B



C



The most frequent gastric tumor caused by HP is:

- A. MALTOMA
- B. GIST
- C. Adenocarcinoma
- D. Carcinoid
- E. T-cell lymphoma

Name this condition:

- 76 year-old woman with several months of progressive loss of appetite, early satiety and weight loss.
- The walls of the stomach appeared thickened, and the stomach distended poorly.
- Biopsies confirmed the suspicion of diffusely infiltrating, poorly differentiated adenocarcinoma.



Which is the best treatment for H. Pylori

- A. Xifaxan
 - B. Xifaxan + more Xifaxan
 - C. Xifaxan and flagyl
 - D. Xifaxan and cipro
 - E. Amoxil and Clarithromycin
- Note: Xifaxan is good for everything except H. Pylori