Gastric Polyps
Ignore, Biopsy or Resect?

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Introduction

• Gastric polyps are abnormal lesions projecting from the gastric epithelium or submucosa
• Result of inflammation, ectopia, epithelial/stromal cell hyperplasia or neoplasm
• 6% of upper endoscopies in US#
• Predominantly incidental (90%)*, rarely cause symptoms (bleeding, anemia, abdominal pain, outlet obstruction)
• Most gastric polyps are benign and require no follow up, however some have malignant potential and require proper identification and appropriate management

# Am J Gastoenterol 2009;104:1524
* Gut 2010;59:1270-1276
Introduction

• Hyperplastic and inflammatory
  – Hyperplastic polyps
  – Fundic gland polyps
  – Inflammatory fibroid polyp
  – Polypoid mucosal proloapse
  – Conkite-Canada polyp
  – Lymphoid hyperplasia

• Neoplastic
  – Adenoma
  – Carcinoid
  – Lymphomatous polyposis
  – Mesenchymal tumors

• Hamartomas
  – Peutz-Jeghers syndrome
  – Juvenile Polyp
  – Cowden disease

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Fundic Gland Polyps:

- Most common type in US (74% all gastric polyps*)
- Smooth, translucent
- Sessile
- Multiple
- Typically <5mm, but can be larger
- Not associated with atrophic gastritis or h pylori infection

*Am J Gastroenterol 2009; 104:1524–1532
Fundic Gland Polyps:

- Occur in 2 (or 3) settings:
  - Sporadic
    - Usually <10 polyps
    - Dysplasia in <1%
  - Associated with FAP
    - Multiple - usually >20
    - Dysplasia in 25-50%
  - Associated with PPI use
    - Can be multiple
    - Dysplasia very uncommon
Fundic Gland Polyps:

- Very low malignant potential, however increased when associated with a polyposis syndrome
Fundic Gland Polyps: Management

• Biopsy representative polyps and resect those greater than 1cm.
• If >20 fundic gland polyps in the antrum in a pt <40 years or with concurrent duodenal adenomas, FAP should be considered.
• If dysplasia present, consider polyposis syndrome.
• If no dysplasia, no further work up or surveillance.

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Hyperplastic polyps:

- Inflammatory proliferation of gastric foveolar cells associated with underlying chronic mucosal inflammation
  - H. pylori
  - chronic atrophic gastritis
  - pernicious anemia
  - surgical anastomosis
- ~20% of all polyps in US
Hyperplastic polyps:

- 0.5-1.5cm in diameter, although can be much larger
- M=F predominance
- 6th or 7th decade
- Sessile or pedunculated
- Antral predominant
- Single (antral) or multiple (anywhere)
- Symptoms – rare, but can bleed or cause obstruction when large
Hyperplastic polyps:

- Can harbor foci of dysplasia
- Carcinoma risk is <2%
- Malignant risk predominantly in polyps >2cm
- Potentially higher risk from synchronous gastric cancer than from polyp itself – non-polypoid mucosa is therefore important
Hyperplastic polyps:

- Biopsy polyps and resect if >1cm
- Careful inspection of non-polypoid mucosa with targeted biopsies
Hyperplastic polyps: management

- If H pylori present, treatment often causes significant reduction in size
- If HGD or incompletely resected polyps, repeat endoscopy with resection
- Surveillance in a year.
- If no polyps on repeat endoscopy, unclear benefit of continued surveillance
Gastric Adenomas:

- Dysplastic epithelial cells that arise in background of atrophy and intestinal metaplasia
  - Chronic atrophic gastritis
  - H pylori
  - Pernicious anemia
- 1-10% of all gastric polyps (US)
- >25% (East Asian regions)
Gastric Adenomas:

- M=F
- 6\textsuperscript{th} or 7\textsuperscript{th} decade
- Flat or sessile > pedunculated
- Typically single and antral location (can be multiple and throughout stomach)
- Variable size
- Overall risk of malignancy – estimates up to 30%
Gastric Adenomas:

- Often associated with:
  - Atrophic gastritis
  - Intestinal metaplasia
  - H. pylori (some controversy)
- Increasing risk with size, typically >2cm*
- Synchronous gastric adenocarcinomas in up to 30% of patients with adenomas with foci of adenocarcinoma

*Gastrointest Endosc 2000;52:27e32
Gastric Adenomas: management

• Completely excise all polyps
• Sample non-polypoid mucosa (high risk of synchronous gastric mucosal dysplasia)
• Treat H pylori if present and confirm eradication
• Surveillance recommended after resection of all polyps
  – 6 months if incomplete resection or presence of HGD
  – Otherwise 12 months
Gastric Neuroendocrine Tumors:

- Derived from enterochromaffin-like cells
- Three types
Gastric Neuroendocrine Tumors:

- **Type 1**
  - 70-80% of gastric NET cases
  - Associated with hypergastrinemia 2/2 autoimmune atrophic gastritis, achlorhydria, antral G cell hyperplasia
  - Greater in 6th decade and women (>2:1)
  - Small, usually <1cm
  - Multiple
Gastric Neuroendocrine Tumors:

- Type 2
  - 5-8% of gastric NETs
  - Mean age 50, M=F
  - hypergastrinemia secondary to secreting tumor, ie MEN-1, Zollinger-Ellison
  - small, <1cm
  - Indolent course
Gastric Neuroendocrine Tumors:

- Type 3
  - Sporadic, 15-20%
  - Mean age 50s, M>F (~3:1)
  - Not associated with hypergastrinemia
  - Usually solitary, larger, >15mm and in corpus
  - Infiltrating growth patterns with areas of necrosis
  - Most aggressive, metastasis in up to 65% of those with resection
Biopsy/resect polyps >1cm
Biopsy of non-polypoid mucosa to help determine type and therefore management
Obtain gastrin level
Gastric Neuroendocrine Tumors: Management

• Type I and II
  – Resect larger polyps
  – Surveillance recommendations vary (If all lesions resected, repeat in 1 year reasonable)

• Type III –
  – If no mets, surgical resection and possible chemotherapy
Inflammatory Fibroid polyp:

- 3% of benign gastric polyps
- Most commonly 5\textsuperscript{th} to 6\textsuperscript{th} decade
- F>M
- Associated with atrophic gastritis
- Predominantly antral
- No malignant potential
- Can reach 1-5cm, can cause obstructive symptoms
Inflammatory Fibroid polyp:

- Biopsy to confirm polyp type
- Resect polyp if symptomatic
- No surveillance
Hamartomatous polyps:

- Hamartomatous polyps – rare in stomach, includes Juvenile Polyps, Peutz-Jeghers and Cowdens
  - Juvenile- antrum, solitary, no malignant potential
  - PJ – rare, 15 fold increase in extraintestinal malignancies such as breast, endometrial, pancreas and lung, polyps greater than 1cm – resect, high rate of recurrence, annual screening
  - Cowdens - rare autosome dominant, very rare malignant transformation
Summary:

• Gastric polyps should be biopsied to confirm diagnosis and rule out HGD
• Polyps either >1cm, dysplastic or symptomatic should be resected (if safe/medically appropriate)
• If > one polyp type, biopsy representative polyps separately
• Non-polypoid gastric mucosa should be inspected and sampled (exception: fundic gland polyps)
Factors influencing decision to resect large gastric polyps

- Overall health of patient
- Setting – ambulatory or hospital
- Comfort level of endoscopist (EMR or ESD for large lesions)
- Symptomatic? (GOO)