Gastric Polyps

Bible class 29.08.2018
“Starting my training in gastroenterology, some decades ago, my first chief always told me that colonoscopy may seem technically more challenging but gastroscopy has findings definitely harder to interpret.”
Case 1

- 42 yo male with heartburn and regurgitation since early 2018
- Personal and family history unremarkable
- GP - > trial of ranitidine > incomplete response > gastroscopy
Case 1

![Endoscope Image]

- Polyp Magen

*Universitätsklinik für Viszerale Chirurgie und Medizin*
Case 1

What is it? What to do?
Fundic Gland Polyps

Characteristics
- usually multiple transparent sessile polyps
- 1-5 mm in diameter
- located in the body and fundus
- more frequent in women than in men

Endoscopic management:
- >10 mm in size should be removed*
- Consider sampling healthy mucosa*
Case 1

- You decide to resect it and start PPI for esophagitis
- Forget to attach report, confusion in pathology
- Which one is our polyp?
Fundic Gland Polyps

Histology

- Cystically dilated glands
- lined by gastric body type mucosa
- Dysplasia occurs in <1%
Case 1

- Which would likely be the course of the polyp on PPI?
Fundic Gland Polyps

- Grow in size on PPI
- Controversial if they appear more frequently on PPI
Case 1

• If random biopsies had been taken, what would you expect the H. pylori status of the patient to be?
Fundic Gland Polyps

- Prevalence of H. pylori infection is very low
- H pylori may even have an inhibitory effect on the development of FGPs
Case 1

• Surveillance recommendations?
Fundic Gland Polyps

• Surveillance is not routinely recommended in sporadic FGPs without dysplasia
Case 2

• 19yo male with dyspepsia, unremarkable personal and family history
• GP: PPI trial: no response, H. pylori UBT: negative -> Gastroscopy
Case 2

- 19yo male with dyspepsia, unremarkable personal and family history
- GP: PPI trial: no response, H.pylori UBT: negative -> Gastroscopy

What to do next?
Fundic Gland Polyps in the setting of FAP

• Usually multiple, may present “carpet-like”
• No clear cut-off number
• 25-41% harbor dysplasia

Recommendation to refer patients for colonic investigation
• Multiple FGPs in patients < 40 yo
• FGPs with Dysplasia
Case 2

- 19yo male with dyspepsia, unremarkable personal and family history
- GP: PPI trial: no response, H.pylori UBT: negative -> Gastroscopy
Fundic Gland Polyps in the setting of FAP

- Upper endoscopy every two years
- Except if the spiegelman score dictates a shorter interval!

<table>
<thead>
<tr>
<th>Polyps</th>
<th>1 Point</th>
<th>2 Points</th>
<th>3 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>&lt;4</td>
<td>5–20</td>
<td>&gt;20</td>
</tr>
<tr>
<td>Size</td>
<td>0–4 mm</td>
<td>5–10 mm</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Histology</td>
<td>Tubular</td>
<td>Tubulovillous</td>
<td>Villous</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spigelman stage</th>
<th>Total points</th>
<th>Frequency of surveillance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Every 4 years</td>
</tr>
<tr>
<td>I</td>
<td>≤4</td>
<td>Every 2–3 years</td>
</tr>
<tr>
<td>II</td>
<td>5–6</td>
<td>Every 1–3 years</td>
</tr>
<tr>
<td>III</td>
<td>7–8</td>
<td>Every 6–12 months</td>
</tr>
<tr>
<td>IV</td>
<td>9–12</td>
<td>Expert surveillance every 3–6 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surgical evaluation</td>
</tr>
</tbody>
</table>

Recommended duodenal surveillance frequency:

- Complete mucosectomy or duodenectomy or Whipple procedure if duodenal papilla is involved

Case 3

- 36yo female from Syria referred for gastroscopy with persisting epigastric pain
- Personal and family history unknown (no translator present), Basic labs ok

What do you think this lesion is?
Case 3

- Histology: H. pylori gastritis with extensive intestinal metaplasia
- Hyperplastic polyp

Patient: “what’s caused my polyp? Am I in risk of cancer?”
Hyperplastic polyps of the stomach

- Very common, 30-93% of all gastric epithelial Polyps
- Response to a chronic inflammatory environment, particularly H. pylori gastritis

Risk of malignancy
- Neoplastic progression is rare (1.5-2.1%)
- Risk increased when pedunculated and >10 mm
- increased risk of synchronous cancer elsewhere in the gastric mucosa
Hyperplastic polyps of the stomach

Endoscopy:
• tubular mucosal pattern, of several shapes, thick but regular vessels
• Dense but regular microvascular pattern in NBI
• Erosions and bleeding
• Sessile or pedunculated
• Mostly < 20 mm
• Often single polyps in the antrum
Hyperplastic polyps of the stomach

Histology:

- hyperplastic foveolae
- Serrated crypts
- an inflamed stroma
- Evidence of chronic gastritis in the surrounding mucosa
Case 3

• 36yo female from Syria referred for gastroscopy with persisting epigastric pain
• Personal and family history unknown (no translator present), Basic labs ok
• Endoscopy+ Histology: hyperplastic Polyp, H. pylori gastritis with extensive atrophy and intestinal metaplasia

Management and surveillance recommendation?
Hyperplastic polyps of the stomach

Resection:
• All > 5mm*
• Symptomatic (bleeding)
*5-10mm without dysplasia associated with H.pylori consider eradication without resection

Surveillance
• Endoscopy at 1 year post polypectomy
If extensive metaplasia/atrophy in the gastric mucosa:
• No Dysplasia: 3yearly
• LGD in random biopsies: yearly
• HGD in random biopsies, immediate, 6monthly/Surgery
Case 4

• 59yo female with H.pylori associated extensive atrophy and intestinal metaplasia since 2001, lost to follow up since 2005

• You suspect adenoma and decide to biopsy it.

  Endoscopic characteristics adenomas?
Endoscopic characteristics of gastric adenomas

- Solitary, often flat or sessile
- Frequently in the antrum
- Tubular or villous mucosal pattern
- Some regular but thin vessels (similar to intestinal metaplasia)
- Irregular area of absent or distorted glands with some irregular vessels
Case 4

- 59yo female with H.pylori associated extensive atrophy and intestinal metaplasia since 2001, lost to follow up since 2005

- You suspect adenoma and decide to biopsy it.

How many biopsies? Where?
Biopsies for gastric polyps

• Initial step for most lesions
• Even if macroscopic findings hint at FGP or dysplasia

**Number of biopsies of polyp**
• Former recommendation for $\geq 6$ may induce non lifting sign
• Thorough inspection with NBI and 2 targeted biopsies may be reasonable

**Sampling of surrounding mucosa**
• Obligatory for hyperplastic polyps, adenomas and NET
• Probably helpful for all other polyps
Case 4

• 59yo female with H.pylori associated extensive atrophy and intestinal metaplasia since 2001, lost to follow up since 2005

• Histology confirms tubulovilous adenoma with LGD. Lesion size 2 cm. No dysplasia in the surrounding mucosa. Resection method?
## Endoscopic resection of gastric polyps

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<th>Method</th>
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<td>Snare polypectomy</td>
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<td>• Hyperplastic</td>
<td>• 0-Isp</td>
<td></td>
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<tr>
<td>• NET (I and II)</td>
<td>• Size 10-15mm</td>
<td>EMR</td>
</tr>
<tr>
<td>• LGD</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>• Size &gt;15mm</td>
<td>ESD</td>
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# Endoscopic resection of gastric polyps

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Case 4

- ESD is performed
- Histology: tubulovilous adenoma with LGD and dysplasia-free resection margins

Surveillance?
Surveillance of gastric adenomas

Complete resection, size ≤ 20mm
• Endoscopy after 3-6 months and then annually

Piece-meal resection or positive lateral margins* or complete resection ≥ 20mm
• Endoscopy after 3 and 9 months and then annually

Gastric mapping in every endoscopy

*depending on histology surgery may be indicated
Case 5

• 55yo female with macrocytic anemia
• GP: CBC, vitamin-B12 deficiency and positive anti-parietal cell antibodies
• Refers for gastroscopy to search for autoimmune gastritis.
Case 5

• 12-15mm lesion in the gastric body
• You biopsy the lesion and take random biopsies
Case 5

• Histology reveals round monomorphic cells growing in nests and trabecula
• IHC reveals positivity for chromogranin A
• Histologic findings from the random biopsies are compatible with extensive autoimmune atrophic gastritis

What are the types of gastric NET?
# Gastric NET types

<table>
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<th>Type</th>
<th>Gastrin</th>
<th>Gastrin Source</th>
<th>Percentage</th>
<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>Gastrin G cells</td>
<td>Gastric G cells - AIG, atrophy, achlorhydria</td>
<td>80%</td>
<td>women (50-70y), multiple, small (&lt;10 mm), central depression or ulceration</td>
</tr>
<tr>
<td>II</td>
<td>Gastrinoma</td>
<td>Gastrinoma</td>
<td>5%</td>
<td>Same as type I</td>
</tr>
<tr>
<td>III</td>
<td>-</td>
<td>-</td>
<td>15%</td>
<td>solitary, large (20-50 mm) anywhere in the stomach Worst prognosis</td>
</tr>
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</table>
Case 5

• You resect the lesion with EMR, histology confirms complete resection

  **Surveillance recommendations?**
Case 5

• You resect the lesion with EMR, histology confirms complete resection

  Surveillance recommendations?

• Yearly endoscopy
Rare gastric polyps in histology

Hamartomas:
• Think of a syndrome (Peutz-jegers, Cowden)

Juvenile:
• Solitary in adolescences, no malignant potential
• Multiple: juvenile polyposis – risk of gastric cancer

Inflammatory fibroid polyps (IFP)
• Gastric submucosal granulomas with eosinophilic infiltration
• no malignant potential
• prevalence of 0.1%, middle-aged women
• usually small (<15 mm), sessile, solitary lesions, distal antrum
Remember…

• 80% of gastric polyps are non neoplastic
• Despite typical appearance, should be sampled at the initial endoscopy
• Biopsies of normal appearing mucosa
• Multiple FGPs, consider FAP
• Sporadic FGP and IFP, no further surveillance
• Hyperplastic > 5mm : resect, follow-up at 1 year
• Adenomas regardless of size: resect, follow up.
• Hamartomas: search for syndrome.
**Case 6**

49yo male with NASH cirrhosis

• Presents in ER with hematemesis

• Endoscopy:

**What is the lesion?**
“Starting my training in gastroenterology, some decades ago, my first chief always told me that colonoscopy may seem technically more challenging but gastroscopy has findings definitely harder to interpret.”

Ove Carstens