BC CRC Update
Malignant Polyp – Who Needs Surgery

Anthony MacLean, MD, FRCSC, FACS, FASCRS
Colorectal Surgeon
Foothills Medical Centre
Clinical Associate Professor of Surgery and Oncology
University of Calgary
Disclosures

• I have no disclosures
Objectives

• Who needs surgery?

• When is a more extended resection indicated?
  • Colectomy + ileorectal anastomosis
  • Proctocolectomy (+/- reconstruction)
First Things First

• As soon as you get path or referral
  – Make sure site tattooed
  – Make sure you’re clear on morphology
  – Get Path review

• Then...
Decision Time!
Does This Patient Need Surgery?

- Likelihood of residual luminal cancer?
- Likelihood of positive nodes?
- Health of patient?
  - Morbidity of procedure
  - Functional outcome of patient
- Wishes of patient?
  - Risk tolerance
What is a Malignant Polyp?

• What it’s not:
  – High grade dysplasia
  – Carcinoma in-situ
  – Intra-mucosal carcinoma
  – Serrated adenoma

• There must be invasion into submucosa!
What is a malignant polyp?
Endoluminal Risk?

• Positive margins: < 1 mm (or 2 mm)
  • Considered an indication for surgery.
  • If margin unclear or < 1mm, risk of luminal cancer 11%


• Piecemeal resection
  • Risk of endoluminal recurrence if no surgery?
Risk of positive lymph nodes in T1? What matters?

- Polyp Configuration: Pedunculated vs. Sessile
- Haggitt Classification
  - Depth of invasion (sm1, sm2, sm3)
- Lymphovascular invasion
- Grade
- Tumor Budding
Haggitt Classification

- Pedunculated adenoma
  - Submucosa
  - Muscularis mucosae
  - Muscularis propria
  - Subserosal connective tissue
- Sessile adenoma
  - Submucosa
  - Muscularis propria
  - Subserosal connective tissue
Risk of + LN’s according to Haggitt Level

Haggitt RC. Gastroenterology. 1985

- Haggitt Level 1
- Haggitt Level 2
- Haggitt Level 3

- Haggitt Level 4* (3% - 25% depending on other features including Sm depth of invasion)

* All sessile polyps are Haggitt level 4.
* Sm Level can be applied to Haggitt level 4 polyps both pedunculated and sessile
Haggitt’s level

• Forget about it

• What do you need to know?
  – Pedunculated vs sessile?
  – Is margin of excision clearly negative?
  – Other high risk features?

• What about sessile lesions?
Sm Level

Nascimento R et al. DCR 2002
Risk of + LN’s according to Sm Level

- **Sm1**: 0-3%
- **Sm2**: 8-10%
- **Sm3**: 23-25%

Nascinbeni R. DCR 2002
Kikuchi R. DCR 1995
Other Risks for LN Mets

<table>
<thead>
<tr>
<th></th>
<th># tumors</th>
<th>Nodal Involvement</th>
<th>Odds ratio</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tumor Grade</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td>176</td>
<td>5.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfavorable</td>
<td>75</td>
<td><strong>29.2%</strong></td>
<td>2.9</td>
<td>0.023</td>
</tr>
<tr>
<td><strong>Vascular Invasion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>176</td>
<td>5.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>75</td>
<td><strong>30.7%</strong></td>
<td>2.7</td>
<td>0.039</td>
</tr>
<tr>
<td><strong>Cribriform pattern</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Absent</td>
<td>192</td>
<td>7.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>59</td>
<td><strong>32.2%</strong></td>
<td>3.9</td>
<td>0.002</td>
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<tr>
<td><strong>Tumor budding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>213</td>
<td>8.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>38</td>
<td><strong>42.1%</strong></td>
<td>3.7</td>
<td>0.008</td>
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</tbody>
</table>

Meta-analysis of features that predict LN metastases

- EMBASE and OVID Medline 1984 – 2008
- 76 articles met inclusion criteria and exclusion criteria
  - 42 different histopathological features identified.
    - 15 were described in more than 2 studies.
- LVI OR 8.62, differentiation 2.38.
- No single risk factor reliably predicts LN mets.

# Outcomes of Malignant Polyps treated Endoscopically

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Favourable Polyps with Adverse Outcomes</th>
<th>Unfavourable Polyps with Adverse Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper</td>
<td>1995</td>
<td>0/46</td>
<td>14/71 (19.7%)</td>
</tr>
<tr>
<td>Volk</td>
<td>1995</td>
<td>0/16</td>
<td>10/30 (33%)</td>
</tr>
<tr>
<td>Hackelsberger</td>
<td>1995</td>
<td>0/42</td>
<td>7/34 (21%)</td>
</tr>
<tr>
<td>Netzer</td>
<td>1998</td>
<td>0/32</td>
<td>16/38 (42%)</td>
</tr>
<tr>
<td>Seitz</td>
<td>2004</td>
<td>0/54</td>
<td>14/52 (27%)</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>0/190</td>
<td>61/225 (27%)</td>
</tr>
</tbody>
</table>

Church JM, Clinics of Colon and Rectal Surgery 2005
Population-Based Analysis

- SEER database in United States
- 2077 patients with T1 N0 1992 – 2005
- Resection in 1340 (64.5%) vs. polypectomy 737 (35.5%)
- Adjusted for comorbidity using propensity scores
- No different between surgery vs. polypectomy 1 and 5 year survival

Cooper GS, Cancer 2012
Why do you need path review?

• As with most things – expertise matters.
Pathology Concerns

• 2 expert GI pathologists in France reviewed 200 colorectal polyps initially examined in the community
  – HGD was over read in 22% of cases
  – Malignant polyps were over read in 17%
  – Malignant Missed in 4/300
  – Complete reports in 37.5% (margins, LVI, differentiation).

Pathology Concerns

• 3 experienced GI pathologists re-reviewed the slides of 88 pts with malignant polyps.

  – 12/88 pts were found to have only HGD

  – Agreement even between experienced pathologists was poor with respect to histologic grade and LVI

Summary

• Polypectomy is adequate treatment for:
  – High grade dysplasia – even with positive margins
  – “carcinoma in situ”
  – “intramucosal carcinoma”
  – Low risk Malignant polyps

• Higher risk T1 lesions that should be considered for resection include the following features:
  – Positive Margins
  – LVI
  – Poorly differentiated
  – Sm 3, maybe Sm2 for sessile and Haggitt level 4
Indications for Extended Resections

• Underlying disease
  – IBD

• Proven or likely Genetic disorder
  – HNPCC
  – FAP
  – MYH, other

• Synchronous tumors
  – Ex. Ascending + distal transverse

• Serrated polyposis / hyperplastic polyposis
Thanks!