Endoscopic Resection of Large Polyps

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Objectives

By the end of this session, attendees will be able to:

1) Review the outcomes of EMR for large colon polyps

2) Review advantages/disadvantages of hot-EMR with thermal ablation

3) Review the advantages/disadvantages of cold-snare EMR
Endoscopic Mucosal Resection

- Remains the technique of choice for the majority of large (>20mm) colonic polyps
- Effective
- Available
- Less morbid vs. surgery
- Less costly

Many factors influence approach:
- Histology, morphology, location, risk of SMIC, presence of SMF
Endoscopic Mucosal Resection

Incomplete Resection/Recurrence

Perforation

Bleeding
Post-EMR Recurrence

- Knabe et al. AJG 2014: 32% (included inconspicuous/biopsy)
- Fujiya et al. GIE 2015: meta-analysis: 12.2%
- Bronsgeest et al. Int J Col Dis 2017: 18.8%
• Retrospective, single centre, 2017-2019
• Non-pedunculated polyps >2cm removed via EMR, n=517
• Recurrence rate = 14.7%
  • 8.8% when using ACE cohort inclusion
  • 70% SMSA = 4
• Use of adjunctive techniques = 31%
  • 51% in recurrent lesions vs 28% (p = 0.004)
• Prior polypectomy attempt ass’d with need for adjunctive technique (30% vs 7%, p<0.001)
• Predictors of recurrence: male gender, adjunctive technique
Preventing Adenoma Recurrence

• Pick the appropriate technique
• High-quality EMR
• Complete resections only
• Thermal Ablation to Edges (EMR-T)
Perforation

Hassan et al. GUT 2016 - Lesions >20mm removed via EMR \(\rightarrow\) 1.5% perforation rate

Sydney Classification of Deep Mural Injury (DMI) following EMR

- Type 0: Normal defect. Blue mat appearance of obliquely oriented intersecting submucosal connective tissue fibres.
- Type I: MP visible, but no mechanical injury.
- Type II: Focal loss of the submucosal plane raising concern for MP injury or rendering the MP defect uninterpretable.
- Type III: MP injured, specimen target or defect target identified
- Type IV: Actual hole within a white cauterity ring, no observed contamination
- Type V: Actual hole within a white cauterity ring, observed contamination

RFs for Type III-IV DMI: TC, en bloc resection, HGD/SMI
Post-EMR Bleeding

Clip Closure For Bleeding Prevention

Post-procedure bleeding occurs in 5-10% after endoscopic mucosal resection (EMR) of large colorectal polyps.

RCT: 919 patients with ≥20 mm non-pedunculated colorectal polyps

Risk of post-procedure bleeding

- All polyp
  - Control group: 7.1%
  - Clip group: 3.5%
  - P = .015

- Proximal polyps
  - Control group: 9.6%
  - Clip group: 3.3%
  - P = .001

- Distal polyps
  - Control group: 1.4%
  - Clip group: 4.0%
  - P = .178

Pohl et al. Gastroenterology 2019 & 2020
Why Should We Keep Things ❄️?
Cold snare piecemeal EMR of large sessile colonic polyps ≥20 mm (with video)

Dileep Mangira, MBBS, FRACP; Karla Cameron, MBBS, Koen Simons, PhD; Simon Zanati, MBBS, FRACP; Richard LaNauze, MBBS, FRACP; Spiro Raftopoulos, MBBS, FRACP; Gregor Brown, MBBS, FRACP, PhD; Alan Moss, MBBS, MD, FRACP, FASGE

• 5 Aussie centres
• Retrospective
• Sessile polyps >20mm
• All removed via CS-EMR
• 204 lesions
  – 30% >30mm, 10% >40mm
  – >90% prox colon
  – 2/3 SSPs

• Recurrence:
  • 5.5% @ SC1
  • 3.5% @ SC2

• Complications
  • Intra-procedural bleeding 2.2%
  • Post EMR bleeding 3.8%
  • Post EMR pain 0.5%

Conclusion:
• Similar efficacy
• Enhanced safety vs conventional EMR
• TA/TVAs + SSPs
• 8 studies, 522 polyps
• mean size 17.5mm (10-60mm)
  • >50% SSP/A
• 5/522 AEs (0.9%)
  • 2 intra-procedural bleeding
  • 1 post-polypectomy bleeding
  • 2 post-polypectomy AP
  • NO perforations
• 99.3% complete resection
• 4.1% recurrence
  • 1% for SSPs
  • 11.1% for TAs

• Conclusion:
  • Significantly reduced AE profile
  • Lower cost
  • Shorter time (definitely with <10mm)
  • Better efficacy
Adverse events and residual lesion rate after cold endoscopic mucosal resection of serrated lesions ≥10 mm

Connor D. McWhinney BS, Krishna C. Vemulapalli MBBS, MPH, Ahmed El-Rahyel MD, Noor Abdullah, Douglas K. Rex MD

- Single centre, retrospective

- **Serrated lesions >10mm (mean 17mm)**

- n=566

- ALL lifted w/ viscous solution/Eleview (no epi)

**Results:**
- f/u obtained in 72%
- No serious AEs
  - 4 pts had bleeding which stopped spontaneously
- Residual lesion rate = 8% (incl +ve scar biopsy)
  - ?related to no epi in injectate
  - ?high rate of prior biopsies

**Conclusion:**
- cold EMR = safe
- ?better for SSLs
Piecemeal cold snare polypectomy versus conventional endoscopic mucosal resection for large sessile serrated lesions: a retrospective comparison across two successive periods


- Retrospective time series, 4 Aussie centres, 2008-2016 vs 2016-2020
- Classic EMR: n=406 lesions
  - Delayed bleeding 5%
  - DMI 3.4%
  - Recurrence @ SC1 = 4.3%
- p-CSP: n=156
  - No delayed bleeding OR DMI
  - Recurrence @ SC1 = 4.6%
- Conclusion: Equal efficacy without complications
## My Current Approach

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<th>&lt;5mm</th>
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<td><strong>SSP/A + dysplasia</strong></td>
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CS-EMR + EMR-T?
Resection Algorithm

Figure 2. Selective resection algorithm for LNPCPs. LNPCP, large nonpedunculated colorectal polyp; SMIC, submucosal invasive cancer. *Endoscopic mucosal resection is recommended for LNPCPs with optical features of a sessile serrated polyp with dysplasia.
Questions??

WEO
World Endoscopy Organization