Small Bowel Crohn’s disease

A case-based, small group discussion
Conflict of Interest Disclosures

• Dr Peter Church, MD, FRCPC  Pediatric Gastroenterologist
  • Research support from Abbvie
  • Consultancy fees from Abbvie, Ferring and Janssen

• Dr Smita Halder, MRCP, MRes, PhD  Adult Gastroenterologist
  • Research support from Amgen
  • Consultancy fees from Abbvie, Takeda and Janssen
  • Speaker fees from Abbvie, Takeda and Janssen
### CanMEDS Roles Covered

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Medical Expert</strong></td>
<td>(as <em>Medical Experts</em>, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. <em>Medical Expert</em> is the central physician Role in the CanMEDS Framework and defines the physician’s clinical scope of practice.)</td>
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<td><strong>Communicator</strong></td>
<td>(as Communicators, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)</td>
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<td><strong>Collaborator</strong></td>
<td>(as <em>Collaborators</em>, physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)</td>
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<tr>
<td><strong>Leader</strong></td>
<td>(as <em>Leaders</em>, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)</td>
</tr>
<tr>
<td><strong>Health Advocate</strong></td>
<td>(as <em>Health Advocates</em>, physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)</td>
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<tr>
<td><strong>Scholar</strong></td>
<td>(as <em>Scholars</em>, physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)</td>
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<tr>
<td><strong>Professional</strong></td>
<td>(as <em>Professionals</em>, physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)</td>
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Objectives

At the end of this session participants will be able to:

1. Recognize the varying clinical presentations of small bowel Crohn's disease

2. Describe and evaluate the different imaging modalities available

3. Outline the principles in managing the disease both medically and surgically
I mustache you a question. But I'll shave it for later.
i mustache you a question but i'll shave it for later.
Case 1

• 16 year old girl
• **Epigastric pain x 4 weeks, 8-10/10**
  • Not sleeping, not going to school
• Intermittent vomiting
• ↓4kg

• BM 2-3/day, no blood, no tenesmus, no urgency
• No EIM
• No travel
• No sick contacts
Investigations

• HGB 124, MCV 75.3, WBC 12.7
• CRP 4, ESR 35, A1AGP 1.37
• Alb 30

• US
  • RLQ small bowel (?TI) thickened (7mm) and hyperemic
  • LLQ bowel (?sigmoid) thickened and hyperemic
Admitted and scoped

- Severe gastritis
- Normal TI and colon
- Biopsies showed chronic inactive gastritis

- High dose PPI
- Discharge home
Prompt return of symptoms

• Ongoing severe abdo pain
• Intermittent vomiting
• ↓4kg more!
• Very little PO intake
• BM 1-2/day, non-bloody
• No EIM

• HGB 108, MCV 75.5
• CRP 1.2, ESR 26

• Alb 22
• Infectious workup negative
Approach?

• Treat Crohn’s disease
  • Steroids?
  • EEN?

• More investigations?
  • MRE?
  • CT?
  • Capsule?
  • SBFT?
  • Other?
MR Enterography
MRE

• LLQ small bowel loops abnormal
  • >10cm
  • Increased enhancement
  • Restricted diffusion
  • Edema
  • Irregular wall thickening, circumferential in portions, but irregular in others
  • Proximal dilation with fecalization (6.2cm in diameter)

• Moderate ascites
MR Enterography

• IV contrast
• Antispasmodic
• Enteral contrast
Biphasic contrast is best
Crohn's Pathologic Findings

- Superficial ulcerations
- Deep ulcerations
- Sinus tracts/fistulae
- Transmural inflammation
- Bowel wall thickening
- Mesenteric inflammation
- Hyperemia
- Stiffening of bowel
- Lymphadenopathy
# MR Enterography

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>No ionizing radiation</td>
<td>Slow (improving)</td>
</tr>
<tr>
<td>Easily stored</td>
<td>Artifact</td>
</tr>
<tr>
<td>Reproducible</td>
<td>Availability</td>
</tr>
<tr>
<td>Excellent accuracy</td>
<td>Expensive</td>
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<tr>
<td></td>
<td>Distension of bowel</td>
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<td>Patient cooperation</td>
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Diagnosis? Next steps?
PET CT

- Multiple bowel loops with markedly increased activity corresponding to thickened distal ileum and mesenteric lymph nodes on CT.

- DDx: Lymphoma >> IBD
Surgical excision

• Diffuse large B-cell lymphoma
Differential Diagnoses of Small Bowel Disease

**Infectious**
- Yersinia spp.
- Salmonella spp.
- Clostridium difficile
- Typhilitis
- Mycobacterium tuberculosis
- Mycobacterium avium
- Actinomycosis
- Anisakiasis
- Cytomegalovirus
- Histoplasma capsulatum

**Spondyloarthropathies**
- Ankylosing spondylitis
- Reactive arthritis
- Arthritis associated with inflammatory bowel disease
- Psoriasis with arthritis
- Undifferentiated spondylarthropathy

**Vascular**
- *Vasculitides:*
  - SLE, PAN, HSP, Behcet’s, rheumatoid arthritis vasculitis, Wegener granulomatosis, lymphomatoid granulomatosis, giant-cell arteritis, Takayasu arteritis, thromboangiitis obliterans

  *Ischemia*

**Small-bowel neoplasms**
- Cecal or small-bowel (ileal) adenocarcinoma
- Lymphoma
- Carcinoid tumor
- Lymphosarcoma
- Metastatic cancer

**Drug-related**
- NSAID enteropathy
- Other drugs: KCL tablets, parenteral gold therapy, oral contraceptives, ergotamine, digoxin, diuretics, antihypertensives

**Infiltrative**
- Eosinophilic enteritis
- Sarcoidosis
- Amyloidosis

**Other causes**
- Backwash ileitis due to UC
- Endometriosis
- Radiation enteritis
Case 2

• 13 year old girl
• “Washroom issues” x years
• 1-2 loose stools/day
• Prolonged bowel movements
• Periumbilical pain with stools

• Poor growth

• Small
• Pronounced clubbing
Investigations

- HGB 120, MCV 75, PLT 807
- ESR 34, hsCRP 9.8, A1AGP 1.68
- B12 130
- Alb 40
- TTG normal
- ASCA ++++
• Biopsies show chronic, active ileitis with granulomas
MRE

• Long segment of distal ileum abnormal
• Wall thickening
• Edema
• Transmural hyperenhancement
• Restricted diffusion
• Luminal narrowing
• Extensive fibrofatty proliferation
• >45cm
Management?

- EEN
- 5-ASA
- Steroids
- Biologics
Follow-up?

- Colonoscopy?
- MRE?
- US?
- CT?
- Calprotectin?
- Other?
- How often?
Progress 2 years later

• Asymptomatic on Infliximab!
• Growing beautifully!
• Calprotectin fallen
• CRP normal
• MRE shows minimal residual inflammation
  • Multiple strictures
Ongoing management?
• Healing on imaging predicts best prognosis

• No deterioration/partial improvement on imaging isn’t so bad
Case 3
19 yr old female CD of R colon and small bowel

2014

Age 16:
• Presented to Sick Kids with weight loss, fevers, abdo pain and EN
• C scope: “deformity and ulceration asc colon, cecum. IC valve not intubated”
• MRE: short segment disease in TI  ? Jejunal involvement
• Needle phobic, severe anxiety, difficulty accepting Dx
• 2 siblings also have CD
  • Started Oral MTX

• Lost to follow up until early 2017
Transfer to Adult GI: March 2017

• Chronically ill looking
• 38 kg
• BMI 14.4
• Pale, clubbed, abdominal pain, diarrhoea
• Admitted directly to in patient ward from Clinic
• CRP 114, Hgb 89, MCV 62, pls 631
• Iron 2, TIBC 24, transferrin sat 0.08, normal ferritin
• CTE: long segment stricture and small bowel dilatation up to 5.4cm
• Commenced on Remicade and steroids
• Iron infusions as out patient
- 3rd Remicade dose: Infusion reaction
- TDM: Drug: <0.035 mcg/ml
- Antibodies 208 AU/ml  High levels

- Preferred to switch to Humira June 2017
- No real improvement
- 3rd admission to hospital in July 2017
- Contrast enhanced US: active inflammatory stricture TI
  - No surgical intervention needed
- Fcal 2280
Contrast enhanced US
Present Day

Problems:
• Malnutrition
• Anxiety
• Constipation
• Bloating

• What to do next??
Evaluation and Certificate of Attendance
Please download the CDDW™ app to complete the session evaluation and to receive your certificate of attendance.
Extra slides
Fistula


Abscess

Stenosis

Signs of damage

Church, et al. Alimentary Pharmacology & Therapeutics, 2015