A rare case of invasive amoebiasis requiring emergency subtotal colectomy in an HIV-positive man

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Presentation

• 56 year old male, MSM

• 2 months in Indonesia, Vietnam and Malaysia
  • Presented on return to UK

• 2 weeks watery diarrhoea
  • >10 stools/day, occasional fresh blood

• HIV +ve, CD4 194 cells/mm³, viral load undetectable
  • Tenofovir, emtricitabine, nevirapine
Investigations

• Observations:
  • Heart rate 103 bpm
  • Blood pressure 155/78 mmHg
  • Temperature 37.0°C
  • Respiratory rate 19 breaths/min

• Raised inflammatory markers
  • CRP 282 mg/L (<5)
  • Neutrophils 12.9 x10^9/L (2-10)
  • Prothrombin time 19.8 s (9-13)
  • Alanine Aminotransferase 55 U/L (<35)

• Considered likely bacterial gastroenteritis

• Commenced oral azithromycin
Day 3 of admission

• Morning consultant ward round

• Acute abdominal distension, generalised peritonitis

• Commenced IV ceftriaxone and metronidazole

• Urgent CT abdomen with contrast

• Severe pancolitis

• Perforations of the caecum and sigmoid colon

• Two small hypoechoic lesions in the liver
Day 4 of admission

- Emergency laparotomy
  - Gangrenous necrotic caecum
  - Serosal evidence of colitis with rectal sparing
  - Faecal contamination of the peritoneal cavity

- Subtotal colectomy
  - Spouting end ileostomy formation
Day 1 post-op

• Recovery in Intensive Therapy Unit (ITU)

• Intra-abdominal drains
  • *Lactobacillus rhamnosus*, *Streptococcus milleri (anginosus)*

• Surgical wound swabs
  • *Enterococcus gallinarum*, *Escherichia coli*

• Continues ceftriaxone and metronidazole
Week 1-2 post-op

- Transferred to High Dependency Unit (HDU)

- Increasing cholestatic LFTs

- Repeat CT abdomen
  - No change in the hypoechoic lesions
  - Likely haemangiomas

- MRCP
  - Normal biliary tree

- Ceftriaxone changed to tigecycline

![Graph showing liver function tests and day of laparotomy]
Laparotomy on day 4

Ceftriaxone changed to tigecycline day 17

<table>
<thead>
<tr>
<th>Day of admission</th>
<th>Gamma GT (U/L)</th>
<th>Alkaline phosphatase (U/L)</th>
<th>Alanine Aminotransferase (U/L)</th>
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<td>4</td>
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U/L
Day 8 post-op

Discrete ulcers within the colon
Flask-shaped ulcers

Normal colon

1. Images from www.google.com
Ingested RBC	
"Foamy" cytoplasm

E. histolytica trophozoite

27 days post-op

Amoebic IFA positive - 1:512
Amoebae latex test - positive
Case - outcome

- Turbulent post-operative recovery
  - Ileus requiring Total Parental Nutrition (TPN)
  - Abdominal wound dehiscence
  - Coagulopathy
  - Weight loss, deconditioning and immobility

- Recovered and discharged home on week 5

- No anti-retroviral therapy missed during admission

- Total antimicrobial therapy:
  - Metronidazole 14 days
  - Tigecycline 42 days (completed as outpatient IV therapy)
  - Oral paromomycin 7 days
Case – 5 months post-op

• Good recovery
  • Using stoma independently
  • Good wound healing

• Planning ileorectal anastomosis
  • For further 7 days oral paromomycin
Fulminant amoebic colitis (FAC)
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- Virulent host response to amoebae causing fulminating reaction
  - Necrotising colitis, perforation and peritonitis

- Uncommon (1:200)\(^1\)

- Male=Female

- Presents as surgical emergency

Fulminant amoebic colitis (FAC)

• Mumbai 2014\(^2\)
  • Amoebiasis considered pre-operatively 5/30
  • 28 required emergency surgery
  • Mortality 17/30 (57%)

Key questions

1. Could we have made an earlier diagnosis?

2. Does being MSM help our diagnosis?

3. Does being HIV +ve help our diagnosis?

4. Does he need lumicidal treatment after bowel re-anastamosis?
1. Could we have made an earlier diagnosis?

• Investigations
  • Stool microscopy – 3x negative
  • Enzyme-linked immunosorbent assay (ELISA)
  • Indirect fluorescent assay (IFA) – took 27 days post-op

• Could we have done better?
  • “Hot stool” for microscopy?
  • Request urgent IFA?
  • Could we have treated empirically?
2. Does being MSM help our diagnosis?

- China 2010³
  - 602 MSM
  - 42% of MSM seropositive on ELISA for *Entamoeba histolytica*
  - Higher seropositivity in “receptive anal sex”

- Taiwan 2007⁴
  - HIV positive patients
  - 70% were MSM
  - MSM at significantly higher risk of amoebiasis

⁴ Hung CC, Colebunders R et al. *PLoS NTD* 2008; e175
3. Does being HIV +ve help our diagnosis?

• Mexico 2005\textsuperscript{5}
  • *Entamoeba histolytica* cysts on microscopy and PCR
  • No increase in HIV +ve compared to -ve

• Japan 2013\textsuperscript{6}
  • 21.3% of HIV +ve on IFA for *Entamoeba histolytica*
  • Titres x 400 predictive of invasive disease

• Link unproven\textsuperscript{7}
  • Confounded by MSM

4. Does he need lumicidal treatment after bowel re-anastamosis?

• Eradicate colonic carriage and prevent recurrence
  • Paromomycin 25-35mg/kg/day for 7 days
  • Or diloxanide furoate, iodoquinol

• Rectal stump untreated due to ileostomy
  • No rectal preparations

• No evidence/ guidelines
Key questions

1. Could we have made an earlier diagnosis?
   - Possibly

2. Does being MSM help our diagnosis?
   - Possibly

3. Does being HIV +ve help our diagnosis?
   - Probably not

4. Does he need lumicical treatment after bowel re-anastamosis?
   - Probably