Management of C. difficile, Toxic Megacolon

Prasanth Patcha, MD
31 Oct 2013
Case

37M h/o AIDS, paraplegia, presents from NH for unresponsiveness; Consulted for abdominal pain, diarrhea;

PMH: AIDS, paraplegia

102.3  116  115/76  100%

Obtunded;

Diffusely tender; Mild distension; No rebound;
Green liquid stool PR;
Large sacral decub, Stage IV, non-purulent;
Case

11:55  cbc  58.6 / 9.7 / 33 / 669
  bmp  135 / 5.8 / 102 / 17 / 100/ 5.9

15:42  7.36 / 24 / 190 / -10 / 13.6

18:11  CT Abd/Pelvis done
On follow-up

approx 23:00

Pt found to be in distress by surgery team
Aggressive Resuscitation

Intubation
Large bore IV’s
Pressure bolus
Central line
Arterial line
Broader Antibiotics
Pressors after volume restored
<table>
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<th>Time</th>
<th>Value</th>
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<tr>
<td>01:55</td>
<td>7.13 / 16 / 111 / -21 / 5.3</td>
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<td>LA 2.9</td>
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<td>02:55</td>
<td>7.05 / 19 / 359 / -23 / 5.3</td>
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<td></td>
<td>bmp 144 / 5.9 / 117 / 8 / 91 / 5.6 / 95</td>
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<td>coag 14.9 / 33.8 / 1.58</td>
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<td>LA 7.5</td>
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Reassessment

05:20  7.25 / 24 / 254 / -13 / 9.8

levo @ 4 mcg / min

Urine output resumes
OR

Exploratory laparotomy
• grossly edematous but externally viable colon
• serous intraperitoneal fluid
• pseudomembranous colitis

Subtotal colectomy, end ileostomy
Course

- Prolonged ICU course
- Cd+, CD4 87
- Continued fevers – VRE isolated
- Ostomy function on POD 3
- Tolerated enteral feeds POD 5
- High outputs – dehydration
- Line sepsis
Course

• Extubated POD 16
• Tolerated PO intake POD 18
• AO x 3
• Smiling 😊
Clostridium difficile

- 2002 – hypervirulence
- 3,000,000 cases of CDI in US / year!
- 20% of hospitalized patients colonized – 8% will develop infection
- 50% of patients >4 weeks in institution are colonized
Clostridium difficile

- ribotype 027 toxinotype III has developed fluoroquinolone resistance

- Mortality increasing

- Current estimates - US$1 billion / yr
Clostridium difficile

- G+, spore forming, anaerobic bacillus
- 3% adults carriers, 25-80% of infants!
- Exotoxins A/B – bind to colonocyte receptors
- Antitoxin A IgA important for carrier state
Cd Infection

- mild, moderate, severe
- spectrum is poorly distinguished
- surgery indications poorly defined
- 3-10% will progress to severe disease with few prognosticators
CdI Dx

- EIA for Toxin A/B
  - 30 min
- Cell Cytotoxicity Neutralization Assay
  - expensive
  - impossible, 72h, cell culture capability required
- PCR for Toxin gene
- EIA for GDH Ag
  - NPV 99%
Fulminant CDI

• level that progresses to Toxic Megacolon, but not necessary for mortality

• TM just means systemic effect
Surgical Treatment

- failure of Abx therapy for 48-72h
- septic shock
- wbc > 30k
Surgical Treatment

• subtotal colectomy, end ileostomy
  – still 40-80% mortality
  – morbidity of permanent ileostomy (very low reversal rate)
Surgical Treatment

PAPERS OF THE 131ST ASA ANNUAL MEETING

Diverting Loop Ileostomy and Colonic Lavage
An Alternative to Total Abdominal Colectomy for the Treatment of Severe, Complicated Clostridium difficile Associated Disease

Matthew D. Neal, MD,* John C. Alverdy, MD,† Daniel E. Hall, MD,‡⁺ Richard L. Simmons, MD,* and Brian S. Zuckerbraun, MD⁺⁺

Objective: To determine whether a minimally invasive, colon-preserving approach could serve as an alternative to total colectomy in the treatment of severe, complicated Clostridium difficile-associated disease (CDAD).

Background: C. difficile is a significant cause of morbidity and mortality worldwide. Most cases will respond to antibiotic therapy, but 3% to 10% of patients progress to a severe, complicated, or “fulminant” state of life-threatening systemic toxicity.⁸⁻¹⁰

The indications for surgical management of patients with CDAD are not clearly defined; however, most advocate surgical intervention in patients with worsening clinical examinations or peritonitis or patients in shock.¹¹ Total abdominal colectomy with end
Thank you