CASE REPORT

Rectal Prolapse in a Child: An Unusual Presentation of *Clostridium difficile*—Associated Pseudomembranous Colitis

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Pseudomembranous colitis after short-course antibiotics is rare in children. We report a 14-month-old girl who presented with rectal prolapse complicated with *Clostridium difficile*—associated pseudomembranous colitis after a 4-day course of oral cefuroxime for treatment of acute otitis media. Abdominal sonogram showed a pelvic mass, and computed tomography revealed thickened wall of the rectum. Sigmoidoscopy demonstrated discrete yellowish plaques adherent to an edematous mucosa. Stool cultures for *C difficile* were positive and *C difficile* toxins A and B were detected in her stool. Histological examination of colonic biopsy showed superficial erosion of the mucosa and the adherent pseudomembranes. She achieved a full recovery after discontinuing cefuroxime. Our case implied that *C difficile* infection should be considered in children presenting with rectal prolapse, especially when they are taking or have recently received antibiotic therapy. Supportive therapy and discontinuation of antibiotics are generally sufficient for patients with *C difficile*—associated pseudomembranous colitis who present with mild diarrheal illness.

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1. Introduction

The annual incidence of *Clostridium difficile*—associated diseases in hospitalized children has been increasing in the past decade. Community-acquired *C difficile*—associated pseudomembranous colitis (PMC) is rare. The clinical spectrum of *C difficile*—associated disease may range from
asymptomatic carriers and mild diarrhea to severe colitis with toxic megacolon or perforation.\textsuperscript{2,3} Rectal prolapse complicated with \textit{C difficile}–associated PMC has been rarely reported in children.\textsuperscript{4–6} This is a case report of a child with \textit{C difficile}–associated PMC who presented initially with rectal prolapse.

2. Case Report

A 14-month-old girl presented with four to five episodes of nonbloody, non-mucous diarrhea and a low-grade fever for 1 day. She had been diagnosed with acute otitis media and received eight doses of cefuroxime (125 mg) over the past 4 days before admission. On physical examination, her abdomen was mildly distended but without tenderness on palpation. A protruded and everted rectal mucosa was found. Laboratory data revealed a white blood cell count of 14,200/mm\textsuperscript{3}, a hemoglobin level of 10.9 g/dL, a platelet count of 254,000/mm\textsuperscript{3}, and a slightly elevated C-reactive protein level of 10.8 mg/L. Stool specimens were negative for occult blood and leukocytes.

Sonographic examination showed thickened bowel walls with luminal narrowing of the rectum (Figure 1A). Computed tomography of abdomen revealed edematous change and wall thickening (arrow) of the rectum (Figure 1B). The sigmoidoscopy demonstrated discrete yellowish plaques adherent to an edematous mucosa (Figure 2A). These findings were confined to the rectum and the sigmoid. Stool cultures for \textit{C difficile} were positive, and \textit{C difficile} toxin A was detected in the patient’s stool. Histological examination of colonic biopsies showed superficial erosion of the mucosa and adherent pseudomembranes composed of fibrin, mucus, and inflammatory debris (Figure 2B). The cefuroxime was subsequently discontinued, and a full recovery was achieved in 5 days.

3. Discussion

PMC is almost always caused by toxins produced by \textit{C difficile}. There can be other infectious etiologies identified for PMC, including other species of \textit{Clostridium}, \textit{Salmonella infantis}, \textit{Plesiomonas shigelloides}, \textit{Escherichia coli}, \textit{Candida} species, and cytomegalovirus.\textsuperscript{1,7,8} PMC may
affect all age groups, but a lower incidence has been noted in children. Although certain factors, including prematurity, and conditions causing bowel stasis or anatomical obstruction, predispose to PMC, most of the PMC in pediatric patients occurs in previously healthy children.\(^2\)

*Clostridium difficile*–associated PMC is usually caused by the usage of antibiotics. Ampicillin, amoxicillin, the second- and third-generation cephalosporins, and clindamycin are the drugs most frequently associated with this disease.\(^3\) The onset of diarrhea related to *C difficile* infection is typically during or shortly after receipt of a course of antibiotic therapy but may occur from a few days after the initiation of antibiotic therapy to as long as 8 weeks after the termination of therapy.\(^5,6,9\) In our case, a 4-day use of oral cefuroxime was sufficient to develop *C difficile*–associated PMC. Rectal prolapse complicated with *C difficile*–associated PMC has been rarely reported in children.\(^4\) Typically, the broad-spectrum antibiotics are prescribed for either acute otitis media or wound infection in young children. Patients can begin to have profound and intractable diarrhea followed by rectal prolapse 2–4 weeks later.\(^5,6\) The exact mechanism is unknown. As in our case, it is extremely rare for a child with short-course antibiotic use and mild diarrhea (4–5 episodes of nonbloody, non-mucous diarrhea and a low-grade fever for 1 day) to develop rectal prolapse. Potential causes include increased intra-abdominal pressure during fecal passage and poor rectum motility of the involved segment because of wall thickening.\(^7\)

The diagnosis of PMC is based on the history of exposure to antibiotics, characteristic endoscopic findings, and detection of *C difficile* toxins in the feces.\(^3\) Endoscopy allows direct visualization of typical white-yellowish plaque-like lesions of the pseudomembranes. Noninvasive modalities, such as sonography and computed tomography, in which our case had shown low-attenuation mural thickening, can supplement history and clinical findings if PMC is suspected.\(^10\)

Supportive therapy and discontinuation of antibiotics are generally sufficient for patients with *C difficile*–associated PMC who present with mild diarrheal illness. Those with severe symptoms or persistent diarrhea require administration of oral metronidazole or vancomycin for 10–14 days.\(^2,8,9\) In summary, our case implies that *C difficile* infection should be considered in children presenting with rectal prolapse, especially when they are taking or have recently received antibiotic therapy.

**References**