

Perirectal Abscess in Childhood: A Case Report and Literature Review

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Although more common in adults, perirectal abscess is frequently encountered in pediatric practice.¹ Despite its relatively common occurrence, however, there is very little written about perirectal abscess in children. This paper reports a case of perirectal abscess in an infant and reviews the literature regarding the epidemiology, pathogenesis, and management of this entity.

Case Report

D.W., a 5-month-old male child, was admitted to the hospital because of swelling around the rectum and mild diarrhea. Three weeks before admission, the child had been treated for otitis media with amoxicillin and appeared to be improving until his mother noted a small "bump" around his rectum. During the 2 days before admission, the area had gradually enlarged, becoming red and tender. There was no rectal bleeding or fever, and the child was active and eating well. The child's past medical history was pertinent for an uncomplicated gestation with a term vaginal delivery and subsequent normal development and growth.

At admission, the rectal temperature was 38.0°C (100.4°F). Physical examination revealed the presence of a 1.5 × 1.5-cm fluctuant, erythematous swelling, with a minimal amount of purulent drainage approximately 2 cm lateral and superior to the rectum. The fluctuant area was surrounded by an indurated warm area approximately 4 cm in diameter that extended to the scrotum. The examination was otherwise normal, except for a red right eardrum with a diminished light reflex. The admitting white blood cell count was 26,500, with a differential of 44% neutrophils, 7% bands, 42% lymphocytes,

6% monocytes, and 1% basophils. The hemoglobin was 112 g/L (11.2 gm/dL), and the creatinine, urea nitrogen, glucose, and electrolytes levels, and the results of a urinalysis were all within normal limits. After culturing the blood, stool, and abscess drainage, intravenous cefoxitin was started.

The next morning, D.W. was taken to surgery. Anoscopy was performed under anesthesia that revealed the opening to an internal fistula. A probe placed through the external opening of the abscess identified the fistulous tract, which extended to the anorectal junction (pectinate line). This tract was excised, and the abscess cavity was drained and curetted. A small incision was made into the rectal mucosa, which did not reveal further extension of the abscess. Postoperatively, intravenous antibiotics were continued for 24 hours. Bacterial isolates from the drainage included *Escherichia coli*, *Bacteroides* spp, two types of *Clostridium* spp, and *Peptostreptococcus*. The blood culture showed no growth, and the stool culture was negative for enteric pathogens. After discontinuing intravenous antibiotics, treatment with amoxicillin/clavulanic acid was started for both the ear infection and the cellulitis surrounding the opened abscess.

At D.W.'s first outpatient follow-up, he was doing well with no remaining signs of abscess or cellulitis. During continued followup, the child remained healthy without recurrence or further perirectal problems.

Discussion

Perirectal abscess is seen most frequently in children younger than 2 years of age and is more common in male children.¹⁻³ Although the pathogenesis of this entity is not completely understood, two common explanations are given. The first is that the epithelial lining of the rectal area is abraded by the passage of stool, allowing bacteria to invade the perianal tissue. An alternative explanation is that the infection starts in the anal glands surrounding

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the rectum. Occlusion of these glands by feces may initiate an infection, which can then extend into the surrounding tissue, creating an abscess.¹

Although most children with perirectal abscess have no underlying disease, associated illness is common enough to warrant careful evaluation. In contrast to adults, in whom inflammatory bowel disease is frequently associated with perirectal abscess,² immunodeficiency, particularly neutropenia, is the most frequently observed predisposing factor in children.¹⁻³ Immunodeficiency states may be primary or secondary, as in that resulting from chemotherapy. The most recent pediatric series examining perirectal abscess reported two children whose only identifiable predisposing condition was HIV infection.² Unfortunately, as the incidence of HIV infection increases among pediatric patients, perirectal abscess may become an even more clinically important problem.

In the case described, multiple bacterial organisms were isolated. Previous studies typically show a polymicrobial infection with both anaerobic and aerobic organisms present.^{2,4,5} The most frequent anaerobic organisms are *Bacteroides* spp, particularly *B fragilis*. Gram-positive cocci (*Peptostreptococcus* spp, *Peptococci* spp), *Fusobacterium* spp, and *Clostridium* spp are other common anaerobic isolates. Among aerobic bacteria cultured, predominant isolates include *E coli*, *Klebsiella pneumoniae*, *Staphylococcus aureus*, and enterococcus. In younger children, *S aureus* is more frequently recovered than in older children or adults.

The preferred treatment of perirectal abscess is incision and drainage. The use of antibiotics in otherwise healthy children is more controversial. One study showed similar results regardless of whether antibiotics were used,³ while another showed a decrease in complications in children given appropriate antibiotic therapy.¹ A conservative approach is to use antibiotics in patients with signs of systemic toxicity or immunocompromised states, or in the presence of significant cellulitis. Antibiotics that are useful include clindamycin in combination with gentamycin, cephalosporins, and broad-spectrum penicillins.

In immunocompromised patients, extensive surgery may be less useful since there is often little pus formation, and the incision can result in bleeding and tissue damage. However, local incision and drainage may contribute to improved survival and is indicated along with the administration of broad-spectrum antibiotics.⁶ Antibiotics should include an aminoglycoside, an effective anaerobic agent, and an antistaphylococcal coverage.

The most common complication of perirectal abscess is fistula formation, which may require a fistulotomy. Less common, but far more serious, is the development of bacteremia and sepsis, usually leading to death. Fortunately, this rare complication is almost limited entirely to immunodeficient patients. Rectal trauma and instrumentation should be avoided in these patients. If an immunocompromised patient develops rectal pain, tenderness, redness, or swelling, a perirectal abscess should be suspected, and the patient should be started on broad-spectrum antibiotics.

In conclusion, a case of perirectal abscess was described. Incision and drainage usually give good results. Adjunctive antibiotic therapy is usually not essential unless there is systemic toxicity, significant surrounding cellulitis, or an immunocompromised host. Children with perirectal abscess warrant careful evaluation for an underlying disorder, particularly neutropenia.

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