Case Report

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Acute neonatal appendicitis in a preterm

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ABSTRACT

Acute neonatal appendicitis is very rare in the neonatal period. It is usually associated with comorbidity including prematurity. Symptoms are non-specific. The prognosis is marked by high risk of mortality and morbidity. Here, we report a case of preterm new born who presented with sepsis, apnoea, and digestive signs. The laparotomy revealed perforated appendicitis complicated with peritonitis.

Key words: Appendicitis, necrotizing enterocolitis, neonatal appendicitis, neonate

INTRODUCTION

Few cases of acute appendicitis have been reported in the neonatal period. Less than 50 cases in the last 30 years were documented.[1,2] The incidence of acute appendicitis ranges from 0.04% to 0.2%.[3-5] Its infrequency and its non-specific symptoms are responsible for difficulties of diagnosis and delayed adequate intervention. Its outcome is marked by rapid progression to perforation and peritonitis. It tends to occur in premature infants, and it is commonly associated with comorbidity. All these findings are a source of poor prognosis and high mortality.

CASE REPORT

Preterm baby boy was born by vaginal delivery at 32 weeks of gestation, to a 28-year-old primigravida mother. Antenatal steroids were given for premature rupture of membranes and spontaneous labour. Apgar was 9–10, and the examination was normal at birth. Birth weight was 1800 g and head circumference 30, 5 cm. He was admitted in the neonatal intensive care unit, and he was orally fed. He received antibiotics for elevated procalcitonin (0.45 ng/ml). On day 1, he presented fever (38.5°C) with screeches. C-reactive protein (CRP) was 77 mg/L, white blood cell (WBC) were 4,81 x 10^9/l and lumbar puncture was normal. Haemoculture was positive for the Gram-negative bacillus. On day 2, he was intubated for severe apnoea, altered hemodynamic status and painful, distended and contractured abdomen. The volume of the gastric residual was large, but the appearance was clear. Stools were regular and normal. The abdominal X-ray, and the ultrasound showed non-abnormal signs. CRP increased to 155 mg/L. In the blood count, WBC was normal, but thrombocytopenia was noticed. The decision was exploratory laparotomy. Intraoperative findings revealed perforated appendicitis with peritonitis. Appendectomy and peritoneal lavage with warm saline were performed. The outcome was favourable. Histopathology confirmed the diagnosis and did not show signs of Hirschprung's disease. The follow-up at 5 months of age was reassuring.

DISCUSSION

Acute neonatal appendicitis occurs in males in 75% of cases;[3,6] and in 25 to 50% of the time it involves a preterm infant. Coexisting pathologic states are usually found: Prematurity, necrotizing enterocolitis (NEC), cytomegalovirus enterocolitis, mucormycosis, maternal chorioamnionitis, cardiopulmonary failure,

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hyaline membrane disease, inguinal hernia (amyand's hernia) (33%), Hirschprung's disease,[3,7] cystic fibrosis, meconium plug syndrome, Down's syndrome, and congenital ureteropelvic junction obstruction.

Symptomatology in acute neonatal appendicitis is non-specific, and the presentation can be identical to NEC.[8] In fact, most common clinical features reported in the literature were abdominal distention (90% of cases) and vomiting (40-60 %). Other symptoms included abdominal tenderness (37%), irritability (40%), temperature instability (32%), anorexia (42%), sepsis (28%), and respiratory signs (15%).[1,3,9] In some cases, no digestive signs were found, and the patient's physical examination was limited.[2] This misleading and atypical symptomatology makes the diagnosis difficult since there is also often comorbidity.

The routine investigations are not contributory to the diagnosis. Abdominal X-ray may be helpful when it shows free peritoneal air leading to early surgery. Ultrasound seems to be more effective, but it has limitations when the appendix is retrocecal or perforated.[1]

Although there has been a reduction in mortality over the last century, it remained as high as 28%.[1,3,4,6] It is mainly due to the delayed surgical intervention since the recognition of the disease is difficult. Indeed, all cases reported were diagnosed at laparotomy or autopsy.

Management consists of simple appendectomy and peritoneal lavage with warm saline. Hirschprung's disease must always be ruled out on histopathology.

Although acute appendicitis is the most common surgical condition of childhood, it is seldom evoked in the neonatal period. Considering it in the differential diagnosis of abdominal distention in the newborn allow precocious and adequate management leading to a better prognosis.

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Conflicts of interest

There are no conflicts of interest.

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