

Neonatal Appendicitis with Perforation: A Rare Case Report

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Abstract

Acute perforated appendicitis is a rare in neonate. Moreover the chances of perforation are high leading to peritonitis causing high morbidity and mortality. Appendicular perforation in neonatal age (our patient age is 9 days) may represent an underlying disease and therefore hirschprung disease, cystic fibrosis and isolated form of necrotizing enterocolitis limited to appendix should be ruled out. Here we present a case of neonatal appendicitis with perforation peritonitis; the age of the neonate is only 9 days. Neonatal appendicitis is already a very rare presentation and with this age, needs documentation.

Keywords: Neonatal appendicitis, Perforated appendicitis, Peritonitis

INTRODUCTION

The neonatal appendicitis is rare. It has lack of specific sign and low index of suspicion make it very difficult for early diagnosis. Because of subtle clinical presentation usually result in high morbidity and mortality due to delayed diagnosis and surgical intervention.¹ We are reporting a unusual case of neonatal perforation appendicitis so that an undue high morbidity and mortality could be avoided by an early diagnosis and appropriate treatment.

CASE REPORT

A 9 days old full term vaginal delivered female baby was presented with complaints of refusal to feed, fever, not passing motion, episode of vomiting with progressive abdominal distension since 5 days. General physical examination revealed that patient had toxic look, tachypnoea, and tachycardia. Patient was dehydrated.

On abdominal examination, abdomen was distended with shiny and oedematous abdominal wall. No other systemic

abnormalities detected. Laboratory investigation revealed, hemoglobin – 15.9%, TLC - 11,000 with raised PMN cells (75%). Platelet counts were 11,000 only. Serum electrolytes and renal function tests were in normal range. Serum Billurubin was raised 12.24 mg% with direct 0.79 mg%. Ultrasound abdomen was suggestive of collection in peritoneal cavity with thickened wall bowl loops and mesenteric lymphadenopathy. X ray abdomen erect was suggestive of pneumoperitoneum.

Patient underwent surgical exploration. There was free fluid in the peritoneal cavity and whole of the small bowl was studded with flakes. On gross examination there was no pathology seen in gut however appendix was inflamed, oedematous and thickened with a large perforation in mid of appendix (Figures 1 and 2). Appendicectomy and peritoneal lavage was done. Patient recovered well with general supportive measures (Figure 3).

DISCUSSION

Various clinical signs and symptoms to diagnose neonatal appendicitis are abdominal distension, fever, refusal to feed, vomiting, leucocytosis and radiological sign, free fluid



Figure 1: Operative photo of perforated appendix



Figure 2: Operative photo



Figure 3: Post operative photo

in peritoneal cavity, pneumoperitoneum, right iliac fossa abscess and obliterate psoas shadow etc.²

Acute appendicitis is a common occurrence in childhood, but the diagnosis is rare in acute abdomen in neonatal period. The incidence of appendicitis in neonate varies from 0.04% to 0.2% and is more common in premature neonate. Low incidence of acute appendicitis during infancy is due to several factors including the funnel shaped appendix with wide entry into the caecum.³⁻⁵ Intraluminal obstruction is unlikely because of the curved posture of the appendix and also the liquid diet.² Evaluation of the symptoms of appendicitis in the neonatal period is extremely difficult which eventually leads to delayed diagnosis, resulting in an increased rate of perforation and mortality.⁵

Acute and perforated appendicitis has high mortality of 80% and 90% respectively so require its recognition as a separate clinical diagnosis.^{1,2,4} Neonatal appendicitis may be present as separate clinical entity or may be associated with hirschprung disease, cystic fibrosis, septicemia, necrotizing enterocolitis etc, but still there are reported cases of isolated neonatal appendicitis.^{2,4} In hirschprung disease, the histopathological examination reveals periappendicitis changes without mucosal involvement while simple appendicitis shows evidence of panappendicitis so histological assessment is crucial and should be supplemented with rectal and colonic biopsies.

In cystic fibrosis although the respiratory system is most commonly affected, appendicitis can be occur. These patients remain on antibiotic for their respiratory illness so appendicitis may be missed. It is important to get histological assessment of the appendix as it show characteristic of cystic fibrosis even in neonates.

Due to small size of abdominal cavity, undistensible caecum, thin appendicular wall, small omentum. Appendix is more prone to perforation and early dissemination of infection, so early diagnosis and management leads to reduce overall mortality.^{2,3}

CONCLUSION

We conclude that appendicitis is unusual in neonatal period but if we consider it and by early diagnosis and management, we can reduce the undue morbidity and mortality. To our knowledge this is the first case of this age.

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