International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Appendicular Perforation in Early Neonatal Period: Case Report

Dr. Manoj B V[1], Dr. Darshan A M[2]

[1]Junior Resident Department of General Surgery, SIMS, Shivamogga, Karnataka-577201, India
[2]Corresponding Author: Associate Professor, Department of General Surgery, SIMS, Shivamogga, Karnataka-577201, India

Abstract: ***Acute appendicitis in a neonate and premature baby is still considered a rare entity as diagnosis is always made after surgical exploration for acute abdominal findings mimicking necrotizing enterocolitis. Appendicitis in neonates warrants evaluation for cystic fibrosis as well as Hirschsprung's disease. Here a 3-day old neonate presented with abdominal distension and bilious vomiting. baby had no fever and features of pneumoperitoneum. provisional diagnosis of bowel obstruction (secondary to volvulus or intestinal malrotation) was made. exploratory laparotomy was done, and appendicular perforation was noted on table. The rarity of neonatal appendicitis (NA) together with lack of specific signs and low index of suspicion has led to delay in diagnosis and surgical intervention. Most of the time the diagnosis is delayed and is made after perforation has occurred.***

Keywords: Neonatal appendicitis, perforation

1.Background

Although no age is free from the risk of appendicitis, it is extremely uncommon in new-borns [1]. The rarity of neonatal appendicitis (NA) together with lack of specific signs and low index of suspicion has led to delay in diagnosis and surgical intervention [2]. Abdominal distension is defined as the most common symptom; however, some unspecific presentations including irritability, vomit, increased gastric remnants, breastfeeding refusal, lethargy, and fever may also happen [3]. Diagnosing neonatal appendicitis is challenging and is sometimes confused with necrotizing enterocolitis or focal perforation [4].

2.Case Presentation

3-day-old male neonate presented with abdominal distension and vomiting for two days. He had normal perinatal history (born at term with weight of 2.3kg) with normal feeding and thriving trends. On examination, his temperature was 39˚C with tachycardia. Abdominal examination revealed generalized distension and tenderness. CBC showed leukocytopenia(2900/µL). Abdominal X-ray showed few air-fluid levels.

Figure 1: Shows abdominal x ray showing multiple air fluid levels with dilated bowel loops.

Ultrasound abdomen was unremarkable except for hypoperistaltic bowel loops. The patient was managed with general neonatal supportive measures and prophylactic antibiotics. Exploratory laparotomy was done on day 5 of birth that revealed perforated appendix.

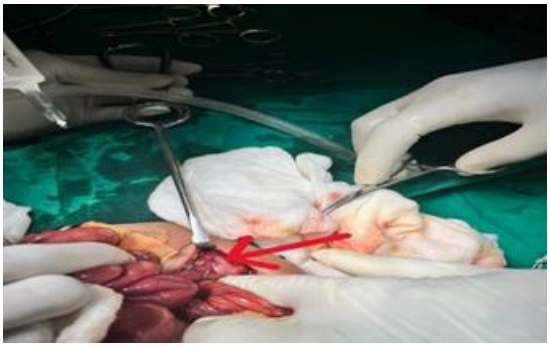

Figure 2: Red arrow mark shows perforated inflamed appendix.

No generalized peritonitis or intra-abdominal free fluid was found. Appendectomy was performed.

3.Discussion

NA is an extremely rare condition, with fewer than 50 cases reported in the last 30 years and just more than 100 over the last century [5]. The incidence of NA has been reported as 0.04 to 0.2% [6]. NA occurs in males approximately 75% of the time and 25 to 50% of all reported cases involve premature babies [1]. As the survival of young babies improves with better perinatal care, one would expect the frequency of appendicitis to rise along with the incidence of NEC in this population [7]. The rarity of appendicitis in the neonatal period (0.04% reported incidence) is classically attributed to the broad orifice of the appendix ("conical," "funnel," or "fetal" anatomy), liquid diet, near-constant supine positioning, the lack of fecaliths in neonates, and the presumed relative infrequency of lymphatic hyperplasia in the peri appendiceal region caused by lack of infectious stimuli [8]. The infrequency of this disease and resultant delay in diagnosis are largely responsible for the higher reported associated morbidity and mortality in perinatal and other age groups [9].

4.Conclusion

Neonatal appendicitis continues to be a diagnostic challenge. Only with a high index of clinical suspicion and teamwork can these cases be managed successfully, and the mortality rate may reduce.

References

[1] Raveenthiran V. Neonatal appendicitis (part 1): A Review of 52 cases with abdominal manifestation. J Neonatal Surg. 2015; 4:4.
[2] El-Gohary MA, Al JS. Neonatal appendicitis with perforation: A case report. J Ped Surg Case Reports. 2014; 2:353–4.
[3] Carrillo Arroyo I, de Alarcon R, Garcia J, Palomar Ramos J, et al. Neonatal appendicitis: how many sides does this coin have? Cir Pediatr. 2021;34(3):143-146.
[4] Khan RA, Menon P, Rao KL. Beware of neonatal appendicitis. J Indian Assoc Pediatr Surg. 2010;15(2):67-69.
[5] Schwartz KL, Gilad E, Sigalet D, Yu W, Wong AL. Neonatal acute appendicitis: a proposed algorithm for timely diagnosis. J Pediatr Surg. 2011; 46:2060–4
[6] Stifle D, Stallmach T, Sachet P. Acute appendicitis in neonates: complication or morgues sui generis? Pediatr Surg Int. 1998; 14:122–3.
[7] Bax NM, Pearse RG, Dommering N, Molenaar JC. Perforation of the appendix in the neonatal period. J Pediatr Surg. 1980; 15:200–2.
[8] Jancelewicz T, Kim G, Miniati D. Neonatal appendicitis: a new look at an old zebra. J Pediatr Surg. 2008;43: e1.
[9] Karaman A, Cavuşoğlu YH, Karaman I, Cakmak O. Seven cases of neonatal appendicitis with a review of the English language literature of the last century. Pediatr Surg Int. 2003; 19:707–9.