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Perforated Appendicitis in a Newborn: Case Report

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Abstract

We presented a case of perforated appendicitis in a 6 days-old newborn, the patient transferred to operation room with transverse laparotomy was done, perforated appendix was found with no other pathology, and resection of the appendix was done, with the washing of the contaminated cavity.

Introduction and Background:

Appendicitis at neonatal age is extremely rare, and the diagnosis in these cases is usually challenging and lacks the appropriate tools in this specific age group (newborns). (1) Perforation of the appendix usually results from this inflammation, as it has been proven that the mortality rate from appendicitis in newborns is between 20% - 25% (2,3).

Abdominal flatulence is the most common leading symptom. However, other non-specific symptoms may occur, such as vomiting, irritability, breastfeeding refusal, and lethargy accompanied by fever (4). Due to its rarity, it is common to confuse appendicitis with other intestinal inflammatory pathologies (5). In this study, we reported a case of a 6-day-old newborn who was diagnosed with perforated appendicitis, underwent a successful operation and was discharged from the hospital in good health.

Case Report:

Full term male neonate, Gestational age (GA) 38 weeks, was born at Al-Israa Private hospital in Tulkarem city by Caesarean section (CS) delivery for a 28-year-old mother, with Apgar score (A\S) 8/9; birth weight 4450g; passed meconium. The patient was referred to Rafidia Governmental Hospital at Nablus from Al Israa Private Hospital at Tulkarem where he was admitted to the neonatal intensive care unit (NICU) after birth, evaluation at age of 12 hours revealed poor sucking, one day after birth he became jaundiced and he was treated with phototherapy and was managed as potential sepsis.

The patient was discharged against medical advice, and returned to the same hospital after one day at home, with vomiting and poor oral intake with abdominal distension. WBC 8.1 CRP 10 total serum bilirubin 19. Direct serum bilirubin 1.7, septic workup was done and started with intravenous antibiotics (Penicillin). He was referred to Rafidiagovernmental hospital at Nablus. At 4 days old, the patient weight 4400g, with poor oral intake, fever, and abdominal distension. He was managed with Intravenous therapy (IV) antibiotics and correction.

Abdomen X-ray Revealed suspicion of air under the diaphragm (Figure 1). Abdominal sonography did not help confirm free air or fluid in the peritoneal cavity. The pediatric surgeon was consulted and he order a repeat X-ray with the left lateral decubitus position which revealed pneumoperitoneum and a decision was made to prepare the patient for surgery.

Figure: 1

Transverse laparotomy was done at age of 6 days old, perforated appendix was found with no other pathology, and resection of the appendix was done, with the washing of the contaminated cavity.
The patient was sent to NICU after surgery, with a Nasogastric tube (NG tube) which was removed on the day after, and stopped antibiotics. The patient improved dramatically and was fit for surgical discharge on the third day after surgery, but he was kept hospitalized to complete his phototherapy for hyperbilirubinemia, he was discharged from the hospital on the 6th-day post-surgery at age of 12 days.

Follow-up evaluation after one week in clinic visit showed that the patient is well and active, with good appetite and oral intake and no abdominal distension, no feverish sensation or abnormal crying episodes.

Figure: 2

Discussion

Appendicitis is the prominent cause of acute surgical abdomen in children and adults. However, it remains a rare condition in neonates and presents mainly with non-specific symptoms, so complications can frequently occur at such an age and it needs a high index of suspicion to establish the diagnosis. (6) The sole dependence on abdomen X-ray and sonography and avoidance of computed tomography in neonatal age also contributes to delaying the diagnosis and may lead to perforation and other consequences. Reasons for neonatal appendicitis in neonates may include Amyand's hernia, Hirschsprung's disease, and cystic. (6,7)
The common presenting symptoms include vomiting, abdominal distension, fever, poor oral intake and lethargy, these symptoms can easily misdiagnose with other pathologies including the bowels of the urinary system. Leukocytosis and sonography show low benefits in diagnosing neonatal acute appendicitis. (8) Rising in C-Reactive protein (CRP) can be noticed however it is non-specific for acute appendicitis. Pneumoperitoneum is the single most common indication for surgical intervention in nearly 52% of cases. (8)

The principal treatment for neonatal appendicitis is surgical intervention, preoperative management followed by surgery including appendectomy and lavage of peritoneum and after-surgery close management can results in considerable improvement and is assumed the treatment of choice. (9,10)

Conclusion

Neonatal appendicitis remains a rare condition, its early diagnosis challenges and many complications that increase high mortality rate. Additional studies should be done to clarify the aetiology and develop an appropriate approach for diagnosing newborns appendicitis. To detect it in a shorter time.

Author Contributions

SW was involved in study design and drafting; DM and SW were involved in literature search and drafting; HR and FI were involved in performing the study. All authors read and approved the study.

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Conflict of Interest

The authors have no potential conflict of interest to declare.

Consents

Written informed consent was obtained from the patient's parent and the hospital to publish this report in accordance with the journal's patient consent policy.

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Data Availability Statement

None.

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