

# Appendicitis in a Preterm Infant with Incarcerated Inguinal Hernia

J Leonhardt, N Derichs, T Buhr, C Dammann, S Glüer

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## Abstract

We report a case of appendicitis and incarcerated inguinal hernia in a preterm triplet with *Enterococcus faecalis* sepsis. After a course of antibiotic treatment for three days, the four week old boy presented with a distended abdomen and right groin swelling due to a suspected incarcerated hernia. Surgical examination revealed an incarcerated inflamed appendix inside an inguinal hernia.

## ABBREVIATIONS

RDS: respiratory distress syndrome, CPAP: continuous positive airway pressure, IL-8: interleukin-8, NEC: necrotizing enterocolitis.

## INTRODUCTION

Acute appendicitis is a rare finding in newborns and very uncommon in preterm infants (1,5). We report a case with an incarcerated appendix inside an inguinal hernia in a four week old preterm boy treated immediately for *Enterococcus faecalis* sepsis.

## CASE REPORT

A 27 week preterm male triplet, born via cesarean section for pathological cardiocogram with a birth weight of 1200g, was initially ventilated for RDS for three days. After extubation, CPAP was continued for four weeks. He developed clinical signs of sepsis with an elevated IL-8 value of 266 ng/l (norm <62 ng/l), but without any gastrointestinal symptoms at 30 days after birth. Blood culture was positive for *Enterococcus faecalis* without any clinical signs of necrotizing enterocolitis. Enteral feeding was stopped and the patient was treated with vancomycin and cefotaxime. Three days later, his pulmonary condition deteriorated and he needed CPAP. Additionally, a firm red swelling was seen in the right groin, which was painful and not reducible. Abdominal X-ray excluded free intra-abdominal air and pneumatosis intestinalis. Ultrasound examination of the abdomen was normal, but confirmed a cystic mass (approx. 2 cm length) in the right groin. An incarcerated inguinal hernia became visible at inguinal

exploration. A macroscopically inflamed appendix was found in the hernia. An appendectomy was performed with subsequent hernia repair. The postoperative course was uneventful and antibiotic treatment was discontinued after one week. A peritoneal swab taken during the operation did not yield any microorganisms. Histological examination of the appendix revealed an appendicitis with hemorrhagic infarction of the mucosa and few granulocytes. The patient was discharged four weeks later in a good condition.

## DISCUSSION

Appendicitis in newborns is uncommon due to the wide base of the appendix (3). Strangulation within an incarcerated inguinal hernia has rarely been reported previously (2,3,4). However, in some cases, an appendicitis in this age group is associated with other major diseases, e.g. chorioamnionitis, NEC or Hirschsprung's disease (1,5,6). The diagnosis is difficult, especially if there is no concomitant perforation of the gut. The presented preterm boy developed abdominal symptoms while receiving treatment for sepsis. We suggest that a compression of the appendix in the hernial sac led to groin swelling. However, it could be speculated that the preceding infection promoted this complication, as in the case of an appendicitis associated with chorioamnionitis (5).

In summary, while appendicitis is extremely rare in preterm infants, it should be kept in mind, because it can be life-threatening if misdiagnosed.

## CORRESPONDENCE TO

Johannes Leonhardt, MD Dept. of Pediatric Surgery

Hannover Medical School Germany Tel.:  
++49-511-532-9260 Fax. ++49-511-532-9059 E-mail:  
Leonhardt.Johannes@mh-hannover.de

**References**

1. Grosfeld JL, Weinberger M, Clatworthy W 1973 Acute appendicitis in the first year of life. *J Ped Surg* 8: 285-292
2. Martins J. L., Peterlini F.L., Martins E.C. 2001 Neonatal acute appendicitis: a strangulated appendix in an incarcerated inguinal hernia. *Pediatr Surg Int* 17: 644-645
3. Srouji MN, Buck BE 1978 Neonatal appendicitis: ischemic infarction in incarcerated inguinal hernia *J Ped Surg* 13: 177-179
4. Bannister SL, Wong AL, Leung AK 2001 Acute appendicitis in an incarcerated inguinal hernia. *J Natl Med Assoc* 93: 487-489
5. Pressman A, Kowar B, Abend M, Steiner Z, Mogliner G 2001 Acute perforated neonatal appendicitis associated with chorioamnionitis. *Eur J Pediatr Surg* 11: 204-206
6. Sarioglu A, Tayel FC, Bykpamuku N 1997 Appendiceal perforation: a potentially lethal initial mode of presentation of Hirschsprung's disease. *Ann Surg* 166: 799-802

**Author Information**

**J. Leonhardt**

Department of Pediatric Surgery, Hannover Medical School

**N. Derichs**

Department of Pediatric Pulmonology and Neonatology, Hannover Medical School

**T. Buhr**

Department of Pathology, Hannover Medical School

**C. E.L. Dammann**

Department of Pediatrics, Tufts-New England Medical Center

**S. Glüer**

Department of Pediatric Surgery, Hannover Medical School