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Case Report

Neonatal Gastric Pneumatosis: Case Report

Neonatal Gastrik Pnömatozis: Vaka Raporu

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ABSTRACT

Gastric pneumatosis is a rare condition characterized by the presence of gas in the stomach wall. It is mostly seen in preterm neonates. Etiologies include necrotizing enterocolitis (NEC), obstructive conditions, such as pyloric stenosis, and sepsis. Herein, we report a rare case of gastric pneumatosis associated with NEC that resolved following conservative management.

Keywords: *gastric pneumatosis, neonate, preterm, necrotizing enterocolitis*

ÖZET

Gastrik pnömatozis nadir bir durum olup mide duvarında gaz oluşumu ile karakterizedir. Bu durum nadir olup özellikle preterm yenidoğanlarda gözlenir. Etyolojide nekrotizan enterokolit, pilor stenozu gibi obstrüksiyon yapan durumlar, sepsis gibi birçok neden yer alır. Burada konservatif tedavi ile gerileyen nekrotizan enterokolit ilişkili gastrik pnömatozisli preterm olgu nadir olması sebebiyle sunulmuştur.

Keywords: *gastrik pnömatozis, yenidoğan, preterm, nekrotizan enterokolit*

INTRODUCTION

Gastric pneumatosis is a scarce condition that is defined by intramural gastric gas. Gastric pneumatosis may be associated with many causes, such as necrotizing enterocolitis, pyloric stenosis, duodenal obstruction, annular pancreas, early neonatal sepsis, and positive pressure ventilation [1-4]. Diagnosis is usually made by direct radiography, and early diagnosis and intervention are life-saving.

CASE REPORT

A male neonate, born at 32 weeks of gestation with a weight of 1680 grams as part of a twin pregnancy, was delivered via cesarean section due to premature rupture of membranes. He was admitted to the neonatal intensive care unit for respiratory distress. On physical examination, the infant presented with groaning breathing and tachypnea, with no additional findings. The patient was intubated and administered a single dose of surfactant for respiratory distress syndrome. Initial laboratory results were as follows:

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white blood cell count, 15,180/µL; neutrophils, 4,860/µL; lymphocytes, 7,830/µL; hemoglobin, 16.8 g/dL; platelets, 257,000/mm^3; and C-reactive protein, negative. An umbilical venous catheter and an orogastric tube were inserted, and their positions were confirmed radiographically. Empirical antibiotics were initiated due to clinical suspicion of sepsis. Minimal enteral feeding was started.

On the second postnatal day, the infant developed bilious vomiting and abdominal distension, raising concern for NEC. No bloody stools were observed. A direct abdominal radiograph revealed gas within the gastric wall, consistent with gastric pneumatosis (Figure 1). Feeding was discontinued, and total parenteral nutrition was initiated.

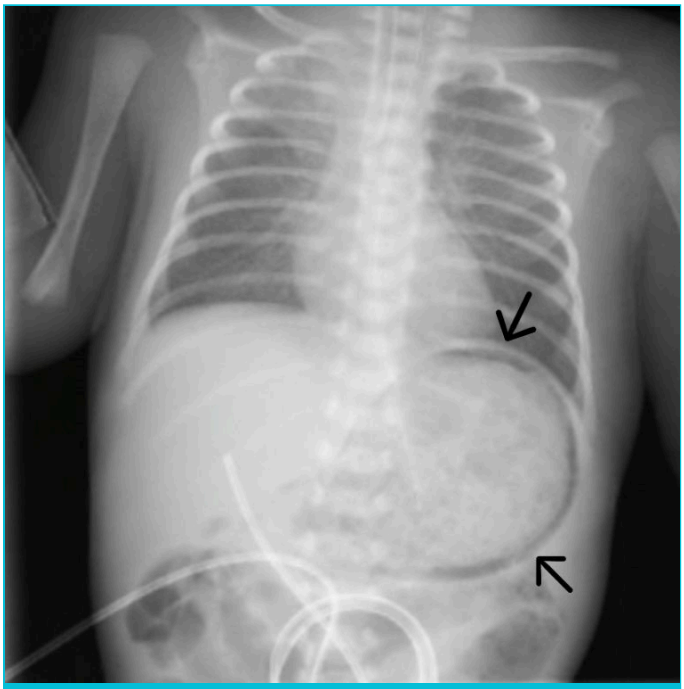

Figure 1. Gastric pneumatosis on direct abdominal radiograph taken on the second postnatal day

Despite the delayed presentation of NEC, the infant's history of intrauterine hypoxia, the parallel clinical progression, and supportive radiological findings strenghtened clinical suspicion and guided the development of a targeted therapeutic approach.

On the fourth postnatal day, the infant was extubated and switched to non-invasive ventilatory support. Follow-up abdominal radiographs demonstrated persistent gastric air. Over the following days, daily imaging demonstrated progressive improvement, with complete resolution of gastric pneumatosis by the tenth postnatal day. With improved clinical findings, minimal enteral feeding was resumed and gradually increased. The patient responded well to conservative management and did not require surgical intervention. Blood cultures consistently remained negative. He was discharged on the twenty-fourth postnatal day without further complications.

DISCUSSION

Gastric pneumatosis is a rare subtype of intestinal pneumatosis that can occur throughout the gastrointestinal tract [5]. Causes include NEC, sepsis, asphyxia, hypertrophic pyloric stenosis, jejunal atresia, steroid or NSAID use, non-invasive mechanical ventilation, and malpositioned feeding tubes [5-6]. Our patient's prematurity, mechanical ventilation requirement, bilious vomiting, and abdominal distension raised suspicion for NEC. Although pneumatosis intestinalis (gas in the intestinal wall) is the hallmark of NEC, gastric pneumatosis has also been reported in association with NEC, particularly in the early neonatal period [7-8]. There are reports of NEC presenting within the first few days of life, especially in preterm infants with risk factors, such as positive-pressure ventilation and early feeding initiation [5-6].

In our case, the absence of fever, negative acute-phase reactants, a stable platelet count, and sterile cultures made sepsis less likely. Although catheter-related complications have been reported as potential causes of gastric pneumatosis [9], the confirmed correct placement of the orogastric tube in our case excluded this etiology.

Treatment aims to achieve bowel rest and gastric decompression. While gastric pneumatosis may occur a part of extensive NEC with poor prognosis, isolated gastric pneumatosis often resolves with conservative management [10]. Our patient improved with antibiotics and bowel rest without requiring surgery.

CONCLUSION

Gastric pneumatosis is a rare finding in neonates. Careful evaluation of the etiology, including the possibility of NEC, is essential to guide appropriate management and predict outcomes.

Patient Consent Form / Hasta Onam Formu

The parents' of this patient consent was obtained for this study.

Conflict of Interest / Çıkar Çatışması

The authors declared no conflicts of interest with respect to authorship and/or publication of the article.

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