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Gastric pneumatosis: a rare presentation of necrotizing enterocolitis

Pneumatose gástrica: uma apresentação rara de enterocolite necrotizante

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A female preterm was born at 35 weeks by emergency caesarian section for suspected fetal distress, with a birth weight of 1990g and an Apgar score 6/7/8. She was admitted to the NICU due to respiratory distress. Oxygen by nasal cannula and empirical antibiotics (ampicillin and gentamicin) were administered for 72h. Septic screening and blood culture at admission were negative, and chest X-ray was normal. Enteral feeding was started on the day two, and the first stool occurred on day one. On day four, she presented signs of sepsis, with hematic gastric residuals and bloody stools. Abdominal X-ray (Fig. 1) showed gastric and intestinal pneumatosis of linear appearance, as well as pneumoperitoneum. Intestinal pneumatosis of cystic appearance was also identified (Fig. 2). ESBL-producing *Klebsiella pneumoniae* was isolated in two blood cultures, and also in the mother's urine culture. In the following three weeks the patient displayed three episodes of clinical instability and rising of inflammatory parameters and was put on a triple antibiotic regimen (amikacin, meropenem and vancomycin). All blood cultures were negative. Of note, exploratory laparoscopy was attempted on day 21, but was terminated due to severe bleeding upon the removal of adhesions. On day 44, the patient underwent resection of three stenotic segments of the small intestine (15 cm in total), jejunostomy and ileostomy. Intestinal reconstruction surgery was performed 2 months later. Today, she is a 27-month-old child with global developmental delay, who is otherwise healthy.

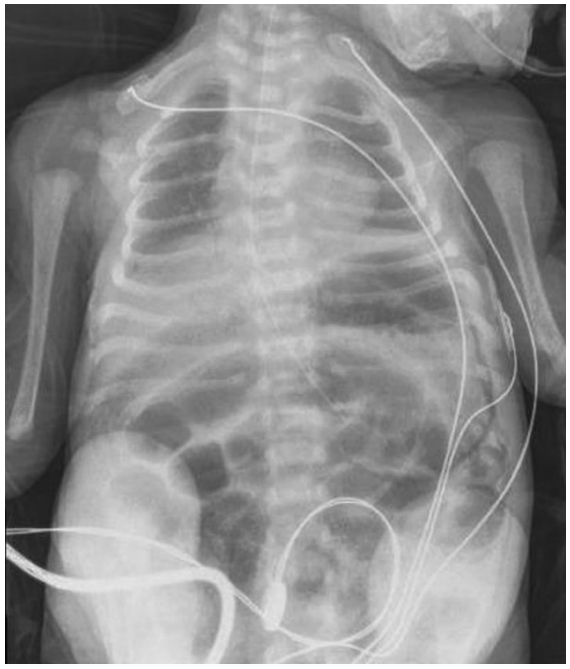

Figure 1. X-ray of the abdomen showing gastric and intestinal pneumatosis as well as pneumoperitoneum.

Gastric pneumatosis is a rare entity, that can be divided in gastric emphysema and emphysematous gastritis[1]. In gastric emphysema, increased intragastric pressures facilitate intramural entrance of gas. Emphysematous gastritis, presents with intramural gas and systemic toxicity, and has been associated with NEC[2]. The radiological features in gastric emphysema are of intramural gas

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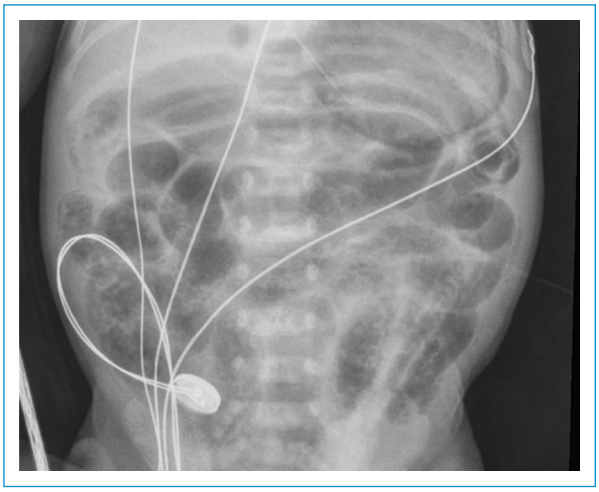

Figure 2. X-ray of the abdomen showing gastric and intestinal pneumatosis of linear appearance, intestinal pneumatosis of cystic appearance, as well as pneumoperitoneum.

as a cystic appearance, while in emphysematous gastritis, gas appears as small bubbles along the gastric wall, similarly to pneumatosis coli in NEC. However, in NEC, several cases of emphysematous gastritis with a linear appearance have been described, as in this case report[3].

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Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

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