A female twin weighing 825 g was delivered via elective Cesarean section at a gestational age of 29 weeks because of progressive twin–twin transfusion syndrome. The birth weight of her cotwin was 1285 g. Nasal continuous positive airway pressure was administered for respiratory distress. Parenteral nutrition was given via a peripherally inserted central catheter line. A patent ductus arteriosus closed at approximately 48 hours of age after treatment with one dose of oral ibuprofen. Enteral feeding with her mother’s milk was started through an orogastric tube at approximately 72 hours. Breast milk was tolerated and its amount was increased gradually; however, mild abdominal distention with bilious gastric residual was noted at the age of 14 days. Antibiotics were administered after a workup for sepsis. Abdominal radiography showed dilated intestinal loops, portal venous gas, and a thumbprint sign in the right colon (Figure 1A). The infant’s condition deteriorated, with ongoing abdominal distention and abdominal wall discoloration. An abdominal radiograph 4 hours later revealed pneumoperitoneum with a football sign (Figure 1B). Laparotomy showed massive bloody-meconium ascites, and disruption of the ileocecal valve with multiple areas of necrotic changes of the ileum, jejunum, and ascending colon. The patient died of multiple organ failure 1 week later.

In twin–twin transfusion syndrome, the donor twin, as was this patient, has potential risk factors for developing necrotizing enterocolitis.
ischemic changes of the intestines. Although breast milk has been reported to have a protective effect against necrotizing enterocolitis in premature infants, one should be very cautious in feeding high-risk infants, such as our patient. Early radiographic findings that should raise the suspicion of necrotizing enterocolitis include gasless abdomen or fixed dilated loops of bowel. Diagnostic findings include pneumatosis intestinalis and/or portal venous gas; however, the longitudinal-section view in which pneumatosis intestinalis is best appreciated may not be present. The thumbprint sign of the colon, as seen in the cross-sectional view of intestinal pneumatosis, may represent a diagnostic finding for necrotizing enterocolitis, as seen in this patient.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

References