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Is intensive phototherapy a risk factor for pathogenesis of intussusception?

Yoğun fototerapi, intussepsiyon patogenezinde bir risk faktörü sayılabilir mi?

To the Editor,

Intussusception in the newborn is reported rarely, accounting for only 0.3% of all cases of intussusception (1). The ileocecal region is most commonly affected. The tetrad of clinical features includes sudden onset of abdominal colicky pain, bloody stools, a palpable abdominal mass, and vomiting. In full-term infants with neonatal intussusception, a pathologic lead point is found in one-third of the cases and the colon is typically involved (2). The etiological factors include duplication cyst, hamartoma or Meckel's diverticulum (3).

The 2800 g firstborn of a set of 38-week male twins was delivered by elective cesarean section to a 28-year-old gravida 2, para 1 woman. A normal pregnancy period was noted in routine visits. In the infant's early neonatal course, no problem was seen. Meconium was passed on the first day. On day 4 of life, he was admitted to the hospital for phototherapy for indirect hyperbilirubinemia (peak total bilirubin 19 mg/dl). After two days of intensive phototherapy, the baby was noted to have mild abdominal distension. There was some epigastric distension, but no masses were palpable. There was a large gush of soft, jelly-like dark-red feces after the rectal examination. Plain radiographs of the abdomen showed a small quantity of gas in the stomach and small intestines (Figure 1). Abdominal ultrasonography was normal. Exploratory laparotomy was done without further investigation because of his rapid clinical deterioration (hypoperfusion/shock-like syndrome). An ileocolic intussusception, which could not be reduced manually, was detected (Figure 2). Six centimeters of bowel appeared nonviable and was resected. The pathology of the resected segment showed mucosal hemorrhage, necrosis and congestion. There was no lead point for the intussusception. The patient was tolerating enteral feeds by day 4. He was discharged from the hospital at the age of 40 days in good general condition. His weight at discharge was 3495 g. Although intussusception is rare in the newborn, it is a relatively common surgical emergency in infants and young children, with an incidence of 1 to 2 per 1000 births (2). The etiology of intussusception in most infants remains unclear. More than 90% of the cases of ileocolic intussusception are idiopathic, without an obvious lead point (3). While abdominal ultrasound is a very useful tool for diagnosing intussusception in older infants, it has not yet been established in the investigation of newborns. In full-term as well as preterm infants, intussusception is predominantly localized in the small bowel; contrast enema is of no value and may even be harmful, because frequ-

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Figure 1. Plain radiographs of the abdomen showed a small quantity of gas in the stomach and small intestines.

Figure 2. An ileocolic intussusception, which could not be manually reduced, was detected.

ently, the bowel is already compromised at the time of the investigation, increasing the risk of perforation. In the majority of the cases, a definitive diagnosis is made at surgery (3). Cserni et al. (4) suggested that the inflammatory reactions that usually precede intussusception may cause overproduction of nitric oxide (NO) by the nitrergic hyper-innervated ileocecal valve (ICV), causing relaxation of the ICV and thereby facilitating ileocecal intussusception. Takahashi et al. (5) suggested that intestinal ischemia-reperfusion causes motility changes in the ischemic site during the intestinal ischemia-reperfusion and in the nonischemic site during the reperfusion. The ischemia-reperfusion-induced motility changes partly depend on NO production. Phototherapy for jaundice is a common treatment in neonatal medicine and is used to prevent the neurotoxic effects of bilirubin. Phototherapy may have an adverse effect on the hemodynamics of infants, and endothelin (ET) and NO are both powerful vasoactive substances (6). Phototherapy causes vasodilation via cyclic guanosine monophosphate (cGMP), which might be modulated by NO. Ergenekon et al. (7) suggested that phototherapy might result in increased NO production, which may cause considerable changes in vascular tone followed by hemodynamic instability in susceptible babies. We thus hypothesize that intensive phototherapy is a risk factor for the pathogenesis of intussusception as a result of increased NO production. There is no study or case report in the literature regarding the relation of NO, intussusception and phototherapy. We herein present this case to emphasize this subject and to point out a concern regarding intussusception during intensive phototherapy.

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Capsule endoscopic appearance of ureteroenteric fistula in obscure gastrointestinal bleeding

Sebebi belirlenemeyen gastrointestinal kanamada üreteroenterik fistülün kapsül endoskopik görünümü

To the Editor,

Obscure gastrointestinal bleeding (OGB) is defined as bleeding of an unknown origin that persists or recurs after negative initial endoscopies (1). Capsule endoscopy (CE) has been recommended as the third diagnostic test for patients with OGB (2).

The etiological causes of small intestinal bleeding are tumors, Meckel's diverticulum, Crohn's disease, vascular lesions, and nonsteroidal antiinflammatory drug-induced small bowel disease (3). Ureteroenteric fistula is known to be a rare cause of OGB.

A 38-year-old female had undergone surgery for cervical carcinoma in August 2009. A ureteral injury had developed as a complication during the procedure and was repaired intraoperatively. Thereafter, in December 2010, ureteroplasty and double-J stent insertion were performed for ureteral stricture. In the postoperative period, during the follow-up for surgical wounds and double-J stent, a urinary tract infection was detected. As she was treated for this infection, she developed hematochezia accompanied by a concurrent hematuria. No lesion could be found on the lower and upper gastrointestinal (GI) endoscopies. Subsequently, she referred to our clinic for further investigation. On CE, a lesion compatible with ureteroenteric fistula was observed at the distal small intestine (Figure 1). Magnetic resonance

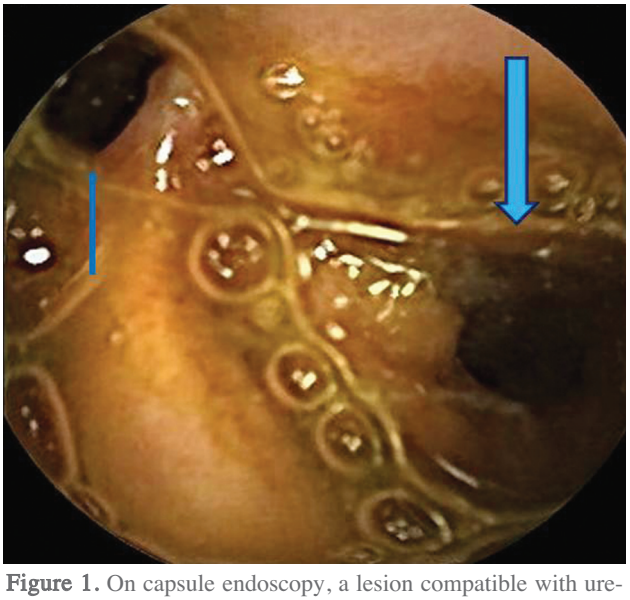

Figure 1. On capsule endoscopy, a lesion compatible with ureteroenteric fistula was observed at the distal small intestine. Thin arrow: ureter; Thick arrow: small intestine.

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