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CASE REPORT

Stress Duodenal Ulcer Presenting as Hematochezia in a Neonate

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Abstract:

Primary duodenal ulcers are very rare in children under 10 years of age but stress induced ulceration in the stomach occurs more often in the neonatal period due to birth asphyxia, prolonged labour, caesarean deliveries, instrumentations, respiratory distress syndrome and sepsis. These present as acute onset of gastrointestinal bleed commonly as altered gastric aspirate, hematemesis or melena. We managed a case of a neonate with stress ulcer who presented with hematochezia. Upper Gastrointestinal Endoscopy (UGIE) done which revealed a large, clean based ulcer in the antero-superior wall of the first part of the duodenum. Child was treated with lansoprazole. The use of lansoprazole resulted in the complete healing of the ulcer after 7 days of the therapy. Stress peptic ulcers should be suspected in a neonate presenting with massive gastrointestinal bleeding after difficult delivery and birth asphyxia. UGIE is mandatory to rule out lesions bleeding from stomach or duodenum or both.

Keywords: Hematochezia; neonate; upper gastrointestinal endoscopy; duodenal ulcer; lansoprazole

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Introduction

Peptic ulcers are deep mucosal lesions which disrupt the muscularis mucosa coat of the gastric or duodenal wall. Primary duodenal ulcers are very rare in children under 10 years of age [1]. Stress induced ulceration in the stomach occurs more often in the neonatal period [2]. We managed a case of 2 days old newborn who presented with massive upper gastrointestinal bleed manifesting as hematochezia due to a large duodenal ulcer and erosions in the stomach. The rarity of endoscopic demonstration of duodenal ulcer in a neonate prompted us to document this case.

Case report

A baby was born in hospital by vaginal delivery at term to a primigravida mother, who received oxytocin drip due to non progression of the labour. The baby cried after half an hour of the birth after some resuscitative measures. The birth weight was 2.25 kg. He was given injection vit K 1mg

intramuscularly after birth. He was doing well and was started on breast feed after 6 hours of the birth.

On day 2 of the life (after 27 hours of birth), the baby started passing maroon coloured blood with blood clots in stools, after passage of meconium. However, there was no vomiting or hematemesis. The neonate was taken to the local hospital where he was given blood transfusion twice and then was referred to Pediatric Gastroenterology, PGIMER, Chandigarh. There was no significant finding on the physical examination. The investigations showed hemoglobin of 13.5 g %, rest of the hematological indices, the coagulogram and the liver function tests were normal. The ultrasonography of abdomen was normal. Upper Gastrointestinal endoscopy (5.5 mm scope, Olympus series G/F Type XP150N 2001779) showed normal esophageal mucosa and multiple small erosions in the body of the stomach. Also, there was a large, clean based ulcer, around 2 X 2 cm in

size on the antero–superior wall of the duodenal bulb (Figure 1). Baby was started on oral lansoprazole 1 mg/kg. After 7 days of the treatment, a repeat endoscopy showed complete disappearance of the erosions and the ulcers in the stomach and duodenum respectively. Histopathology of biopsy from stomach and duodenum showed mucosal ulceration of mucosa with no inflammation. Baby was discharged on day 10 of life on oral lansoprazole and breast feeding.

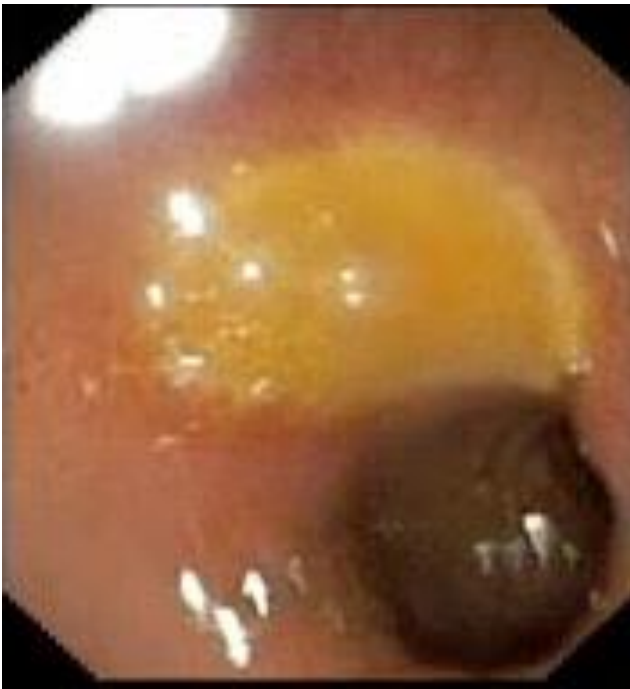


Figure 1: UGIE showing a large, clean based ulcer, around 2 X 2 cm in size on the antero–superior wall of the duodenal bulb

Discussion

Peptic ulcers are rare during neonatal period and infancy. These occur in the newborns but arise secondary to serious underlying illness [2]. Such peptic ulcers are also reported with birth asphyxia, prolonged labour, caesarean deliveries, respiratory distress syndrome, instrumentations, and sepsis [3]. These ulcerations have been shown to have acute onset of gastrointestinal bleed presenting most commonly as altered gastric aspirate, hematemesis or melena. Perforation of duodenal ulcer leading to death has been reported very rarely. Though, cases presenting with recurrent vomiting and symptoms of intestinal obstruction have also been described [4]. Our patient had large duodenal ulcer with erosions in the stomach and presented with massive upper gastrointestinal bleed as hematochezia. UGI

endoscopy with the thinnest scope helped us to make a definite diagnosis on day 3 of life. The ulcer healed after lansoprazole therapy. The technical advancement in upper gastrointestinal endoscopy with smallest diameter scopes have made it easy to define such lesions in infants as erosions, gastric or duodenal ulcers which was not possible earlier [5]. Stress ulcers or erosions have been reported to occur in any part of the stomach and in the duodenal bulb [4, 6]. Present patient had vaginal delivery and birth asphyxia as stressful factors possibly.

These ulcers have been widely attributed to the circulatory disturbances of the gastrointestinal tract at the time of prolonged or difficult labour. The asphyxia results in reflex vasospasm leading to duodenal congestion and possibly mucosal ischemia causing devitalisation of the mucus membrane with subsequent peptic digestion of the damaged area. It has also been described that the compression of duodenum between the liver and the head of the pancreas during birth may result in ischemia of duodenum and mucosal hemorrhage may result after post- partum influx of blood followed by digestion of the blood-infiltrated area [7]. Histopathology of the stomach lesions have shown disruption in the mucosa without inflammatory reactions as seen in the present case [7]. H2 blockers and proton pump inhibitors used in the neonatal period have shown to cause healing earlier as compared to placebo [8,9]. In our patient lansoprazole was used and was given effectively leading to healing within 7 days.

Conclusion

Stress peptic ulcers should be suspected in a neonate presenting with massive gastrointestinal bleeding after difficult delivery and birth asphyxia. In case of bleeding from upper gastrointestinal tract manifesting like slower gastrointestinal tract bleeding, first UGIE is mandatory to rule out lesions bleeding from stomach or duodenum or both. Resuscitation with blood transfusion, and proton pump inhibitors are quite helpful for rapid healing.

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