# Bleeding duodenal ulcer with ovarian torsion—a rare presentation in neonates

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## SUMMARY

Massive upper gastrointestinal bleed is an emergency in newborns. Common causes are coagulopathy and thrombocytopenia. Stress-induced duodenal ulcer has also been reported as an unusual cause for massive upper gastrointestinal bleed. Managing such cases requires correct diagnosis and prompt treatment to prevent catastrophic complications. We report a case of bleeding duodenal ulcer probably secondary to ovarian torsion.

## BACKGROUND

Massive gastrointestinal bleed can be a life-threatening emergency in sick newborns. Coagulopathy and thrombocytopenia are the most common causes.[1] Perinatal morbidities like asphyxia, sepsis, systemic inflammatory response syndrome, fetal growth restriction can cause bleeding stress ulcers secondary to gut ischaemia. Occasionally, antenatal maternal stress can also lead to upper gastrointestinal bleed in newborns.[2 3] We report a case of massive gastrointestinal bleed due to a bleeding duodenal ulcer possibly secondary to the stress of ovarian torsion in the first week of life.

## CASE PRESENTATION

A term female baby, birth weight 3.12 kg, delivered by elective caesarean section for cephalo-pelvic disproportion was admitted at 40 hours of life with rectal bleed. The baby had received injectable vitamin K at birth and exclusive breast feeding. There was no family history of coagulopathy or use of Non steroidal anti-inflammatory drugs (NSAIDs) in the baby or mother. On examination, baby was found to have a lower abdominal mass in the hypogastrium. Investigations revealed normal haematological and coagulation parameters. Ultrasound abdomen showed a cystic mass 5 cm×7 cm×3 cm in the pelvis arising from the ovary or bowel. CT abdomen confirmed the same, but could not identify the organ of origin of the cyst. Exploratory laparotomy done on day 3 of life revealed a twisted right ovary with one complete turn. The right ovary was excised. Bowel was found to be normal with no palpable mass. Postoperative period was uneventful and baby was on full breastfeeds within next 48 hours. However, on day 7 of life, baby had an episode of haematemesis containing fresh blood and large clots. She was kept nil per oral, started on intravenous fluids, intravenous tranexamic acid 10 mg/kg two times per day and a single dose of parenteral vitamin K 1 mg. Investigations revealed haemoglobin 11.9 g/dL, total count 12 600/mm$^3$, platelet 191 000/mm$^3$, Prothrombin time (PT) 13 s, Activated Partial Thromboplastin Time (APTT) 30 s, International Normalized Ratio (INR) 0.97, fibrinogen 305 mg/dL, all of which were in normal range. Sepsis screen was negative and blood culture was sterile. Serum gastrin level was normal.

Later in the day, she had three more episodes of haematemesis followed by four episodes of melena leading to haemodynamic compromise. This led to a drop in haemoglobin to 5.9 g/dL and hypovolaemic shock. Baby was mechanically ventilated and received transfusion of 20 mL/kg of packed red cells and 10 mL/kg fresh frozen plasma. She was also started on Inj. Octreotide to facilitate splanchnic vasoconstriction as there is some anecdotal evidence for its empirical use in persistent gastrointestinal (GI) bleed, till definitive cause was found.[4] Haemodynamics improved with above supportive measures and she was extubated after 24 hours.

99mTc-Pertechnetate scintigraphy was done on day 10 of life to look for a bleeding intestinal vascular malformation or Meckel's diverticulum and localise the site of bleed. The flow image showed abnormal accumulation of tracer in the upper abdomen on the left of midline which was also visible in the static image, suggestive of active bleeding in the upper abdomen on the left side of midline. Baby received three packed red cell transfusions over the next 3 days for drop in haemoglobin due to the persistent GI bleed. Endoscopy done on day 15 revealed a bleeding duodenal ulcer in the third part of the duodenum, rest of the mucosa was normal. Baby was started on intravenous pantoprazole 1 mg/kg/dose 8 hourly. Inj. Octreotide was stopped after the endoscopy. The GI bleed responded in the next 24 hours. Baby was started on breastfeeds on day 17 of life. Intravenous pantoprazole was switched to oral lansoprazole 3 mg/kg/day on day 18. There were no further bleeding episodes, baby had good weight gain and was discharged on day 24 of life on exclusive breast feeding and oral lansoprazole.

## OUTCOME AND FOLLOW-UP

The baby received oral lansoprazole for 2 weeks, the symptoms never recurred thereafter. Baby was followed up throughout infancy and remained well till 1 year of age.

## DISCUSSION

Coagulopathy, thrombocytopaenia and stress ulcers are common causes for life threatening massive upper gastrointestinal bleed. When a relatively stable newborn presents with sudden onset upper GI bleed, one needs to look for rarer causes of GI



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bleed like intestinal vascular malformations, Meckel's diverticulum and gastric/duodenal ulcer. Our baby was diagnosed on ultrasonography to have a twisted right ovary which could probably explain occurrence of the GI bleed due to the stress of the torsion. The baby underwent right oophorectomy on day 2 of life and seemed to have recovered and was exclusively breastfeeding and stable, however, had recurrence of massive upper gastrointestinal bleed on day 7 of life. The continuing stress of an initial twisted right ovary followed by stress of surgery probably led to the bleeding duodenal ulcer.

Duodenal ulcers are not commonly reported in neonatal period as a cause for upper GI bleed.[5] Predominantly upper GI bleed in newborns occurs due to gastric erosions caused by perinatal asphyxia, significant acidosis, sepsis and cow milk protein intolerance.[2] Isolated intestinal vascular malformation can also cause GI bleeding.[6] To the best of our knowledge there is no data in adults or neonates about ovarian torsion being linked to bleeding duodenal ulcer.

Our baby manifested with haematemesis and melena on day 7. Duodenal ulcer usually presents with haematemesis. Melena, is a rare feature of a duodenal ulcer and has also been reported by Joshi *et al*.[3]

Upper GI endoscopy is usually the first investigation of choice for unexplained massive upper gastrointestinal bleed.[5] In our case this was initially not possible due to logistical problems like non availability of a neonatal endoscope at our centre. To localise the site of bleeding, we decided to do a 99mTc-Pertechnetate scintigraphy at our centre which revealed an upper GI focus of bleeding. We had to shift the baby to another centre for upper GI endoscopy which was possible on day 15 and endoscopy revealed the diagnosis.

## Learning points

- Upper GI endoscopy should be considered early for investigation of upper GI bleeds in neonates, when common causes are ruled out.
- High dose proton pump inhibitor is effective in control of bleeding duodenal ulcer and its timely initiation can be life saving.

Appropriate management usually leads to complete resolution of symptoms.[1] If not detected early this can lead to perforation and catastrophic haemorrhage.[7–9] These babies initially require urgent volume replacement along with supportive measures. Further management of duodenal ulcer requires use of proton pump inhibitors (PPIs), somatostatin inhibitors and sometimes surgery.[4] Our baby responded well to high dose PPIs. Appropriate and timely management prevented further complications. We presume that the bleeding duodenal ulcer was caused by the combined stress of right ovarian torsion and its surgery in our patient.

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## REFERENCES

1 Thompson NW, Tubergen DG, Yull AB. Duodenal ulcer in the newborn infant. *Arch Surg* 1965;90:233–6.
2 Kataria-Hale J, Febo-Rodriguez L, Parmekar S. Hematemesis in a newborn: a case report. *Cureus* 2020;12:e6784.
3 Joshi A, Shrestha PS, Dangol S, *et al*. Stress induced gastric ulcers: presenting as massive rectal bleeding in a newborn. *Kathmandu Univ Med J* 2016;14:186–9.
4 Singh H, Ee L. Massive gastrointestinal bleeding from neonatal duodenal ulcer. *J Paediatr Child Health* 2017;53:1031.
5 Lazzaroni M, Petrillo M, Tornaghi R, *et al*. Upper GI bleeding in healthy full-term infants: a case-control study. *Am J Gastroenterol* 2002;97:89–94.
6 Borsellino A, Poggiani C, Alberti D, *et al*. Lower gastrointestinal bleeding in a newborn caused by isolated intestinal vascular malformation. *Pediatr Radiol* 2003;33:41–3.
7 Miller BM, Kumar A. Neonatal duodenal perforation. *J Pediatr Gastroenterol Nutr* 1990;11:407–10.
8 Al Omran Y, Anwar MO, Al-Hindi S. Duodenal perforation in a neonate: an unusual presentation and analysis of the cause. *J Neonatal Surg* 2015;4:19.
9 Amouei A*et al*. Peritonitis following duodenal ulcer perforation in a newborn: a case report. *J Clin Diagn Res* 2016;10.