

Case Report

Right Adrenal Hematoma Causing Partial Small Bowel Obstruction in a Term Neonate

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Abstract

Adrenal haematoma in the neonate commonly occurs during the first week of life and usually proceeded by either mechanical trauma or metabolic stresses including hypoxia, hypovolaemia, septicaemia and coagulopathy. Haematomas commonly present with abdominal mass, anemia and hypovolaemia. The authors report a large for gestational age male newborn who presented with partial small bowel obstruction following adrenal haematoma in a background of an otherwise uneventful vaginal delivery. Although this presentation is extremely rare, it is important to timely investigate all sick newborns with presentations which mimic acute surgical abdomen. Accurate diagnosis enables both avoidance of unnecessary surgical explorations and optimal conservative management.

Key word

Neonate, Adrenal haemorrhage, Bowel obstruction

Background

Neonatal adrenal haemorrhages usually present during the first week of life and commonly occur secondary to birth related trauma. Herein, we present a large for gestational age female newborn who presented with partial small bowel obstruction following adrenal haematoma.

Case Presentation

A female newborn presented with recurrent vomiting since one hour following birth. She was born at 40 weeks +3 days of gestation by spontaneous vaginal delivery with no evidence of birth related trauma. She was first born to non-consanguineous parents. The pregnancy had been uncomplicated with no history of maternal medical complications. She weighed 4 kg at birth. The baby had vomiting episode soon after the first feed and it was non-bilious. The baby looked lethargic and had difficulty in establishing feeding after the onset

of vomiting. Subsequently, she had several episodes of vomiting and vomitus gradually became bilious. Meconium had been passed at two hours of life. Physical examination revealed tense distended abdomen with generalised tenderness.

She was commenced on intravenous fluids containing 10% dextrose at 60 mL/kg/24 hours and kept nil by mouth. Intravenous Cefotaxime (50 mg/kg two times per day) was commenced following after sending blood and urine for cultures. Abdominal distension and vomiting were managed with continuous nasogastric decompression and intravenous antiemetics respectively.

Basic blood investigations including full blood count, C-reactive protein, clotting screen, serum electrolytes, liver and renal functions were normal. X-ray chest and abdomen revealed bowel shadows only on the left side and right sided abdomen showed homogenous opacifications with poor bowel aeration (Figure 1).

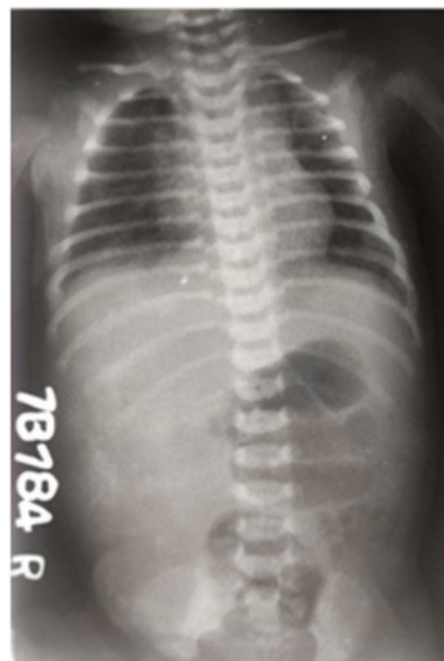


Figure 1: X-ray chest and abdomen

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Ultra sound abdomen showed large 10 cm mixed echogenic lesion above right kidney, crossing midline leading to small bowel obstruction. There were no vascular markings over the echogenic lesion. Both kidneys appeared swollen. There were small amounts free fluids in the abdomen.

Upper GI contrast study revealed no evidence of malrotation (Figure 2). Small bowel loops were seen pushed towards left side.

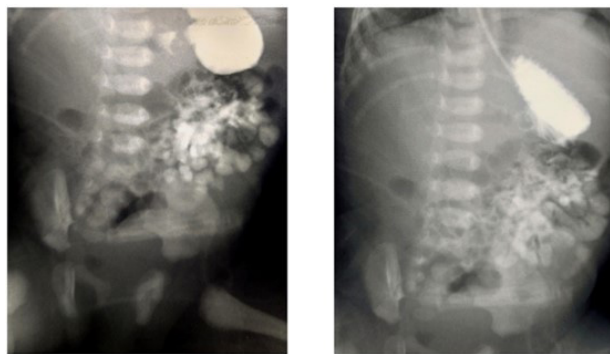


Figure 2: Upper gastro-intestinal (GI) contrast study

Contrast-enhanced CT abdomen showed a large mixed echogenic lesion crossing the midline and causing compression of small bowel loops (Figure 3). There was no evidence of contrast leakage into the peritoneal cavity. The findings were in keeping with right sided adrenal haematoma.

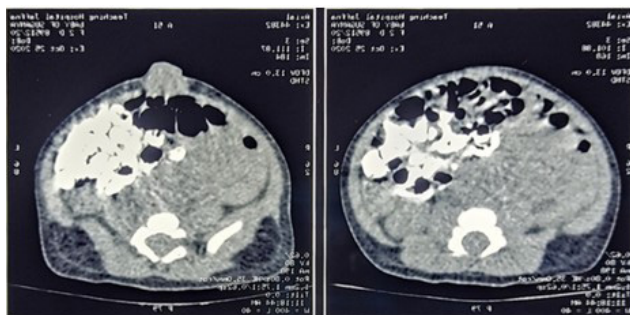


Figure 3: Non Contrast computed tomography of abdomen

The child was managed with supportive care with no active surgical interventions. Feeding was established gradually from day 02 as vomiting settled. Significant reduction in the size of haematoma (4.1 cm x 2.7 cm) was noticed on day 03 follow up ultrasound scan. Further reduction in the size (2.8 cm x 1.4 cm) was noticed at the repeat ultrasound performed at one month of age.

Discussion

Intestinal obstruction is an extremely rare presentation of adrenal haematoma. Larger size of adrenal glands in the newborn and unique vascular supply makes the glands more vulnerable for bleeding. Occasionally,

adrenal haemorrhages occur following intrapartum hypoxia, sepsis, hypovolaemia and coagulopathy. The incidence of adrenal haemorrhages is approximately 1.7 per 1000 autopsied newborn infants. Further, haemorrhages are more commonly observed in right adrenal glands. It has reported more commonly in male newborns and following spontaneous vaginal delivery. The most common presentation of neonatal adrenal haemorrhage is abdominal mass. Jaundice, anemia, and hypovolaemia are other recognised presentations. It has been reported to present rarely as late onset and prolonged neonatal jaundice¹, persistent adrenal insufficiency, scrotal haematoma and coincidental renal vein thrombosis. Very rarely, adrenal haematomas have been reported to present with intestinal obstruction,. Although the underlying aetiology of bowel obstruction can vary in a given neonate with adrenal haematoma, it is believed that incomplete colonic rotation can lead to early complete obstruction of the proximal intestine. Right adrenal gland is more vulnerable for mechanical compression between the liver and spine during the birth process and is also more sensitive changes in pressures within inferior vena cava. Given there was no history of birth related trauma, hypoxia, sepsis and coagulopathy, the likely aetiology of adrenal haematoma in the reported child is mechanical trauma related to spontaneous vaginal delivery.

Ultrasound is the investigation of choice in radiological evaluation of adrenal haematomas¹. It allows identification of progression of haematoma as echogenicity varies with age of the haematoma. At early stages, haematomas appear solid with diffuse echogenicity whilst echogenicity diminishes over time and may have a cyst like appearance with further progression of haematoma. Abdominal computed tomography allows better visualization and confirming the presence of haemorrhage. However, it does not usually provide additional information and performed only when the diagnosis is doubtful. Upper GI contrast studies are the investigation of choice in demonstrating intestinal malrotation.

Adrenal functions remained normal in our patient despite large right adrenal haematoma. Adrenal insufficiency occurs usually in children with large bilateral adrenal haematoma. Left adrenal gland was radiologically normal. Adrenal haemorrhages recover spontaneously with time and conservative and supportive treatment. Follow-up ultrasound is important to demonstrate spontaneous resolution of adrenal haematoma and most haematoma resolve over period that ranges from 3 weeks to months¹.

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