



## Bilious vomiting in two neonates due to an urinoma secondary to posterior urethral valves



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### ABSTRACT

Bilious vomiting is a common presenting sign of intestinal obstruction in the neonate. Here we report two neonates who presented with bilious vomiting due to compression of the proximal small bowel by an urinoma secondary to posterior urethral valves. Awareness of this differential diagnosis may prevent acute exploratory surgery.

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Bile-stained vomiting is an important physical sign in neonates and should always be attributed to intestinal obstruction until proven otherwise. There are a large number of potential causes of intestinal obstruction in the neonate although extrinsic compression of the bowel is uncommon. In a review of neonates presenting with bilious vomiting: Hirschsprung's disease, small bowel atresia, intestinal malrotation and meconium ileus were the commonest diagnoses [1]. We report 2 neonatal cases presenting with intestinal obstruction due to an urinoma secondary to posterior urethral valves (PUV).

### 1. Case report 1

An 8-day old boy presented to the emergency department with poor feeding for 3 days and bilious vomiting for 12 h. Mum reported that he had a poor urinary stream since birth. He was born at term and antenatal scans were reported as normal. On examination, he had an asymmetrical large mass on the right side with palpable tenderness (Fig. 1). The remainder of the abdomen was non-distended and non-tender. Serum creatinine was 83 mmol/L on admission and electrolytes were in the normal range. A nasogastric tube was inserted and drained 15 mL of bile-stained fluid.

An upper gastro-intestinal contrast study did not demonstrate malrotation but there was hold-up of the contrast at the second part of the duodenum (Fig. 2). After repositioning the patient, a delayed film after 25 min demonstrated that contrast had passed into the distal duodenum. An abdominal ultrasound scan confirmed a large multi-loculated cystic mass surrounding the anterior aspect of the displaced right kidney (Fig. 3). The left kidney was mildly hydronephrotic with a trabeculated, thick-walled bladder without visible ureters. A urinary catheter was inserted with some resistance at the posterior urethra. Urine freely drained and the serum creatinine decreased to normal values. A CT scan confirmed a likely diagnosis of an urinoma (Fig. 4) & micturating cystogram demonstrated presence of posterior urethral valves (Fig. 5). The patient underwent resection of his posterior valves 10 days after admission and was discharged home the following day. At 1-year follow-up, the patient was stable with no urinary tract infections.

### 2. Case report 2

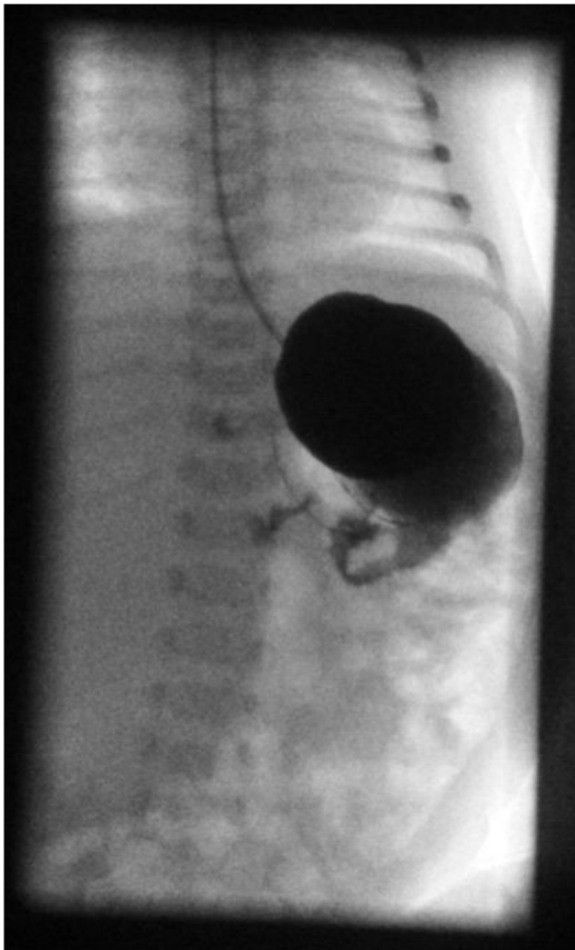
A 7-day old boy presented to his local hospital with bile-stained vomiting and poor feeding. The antenatal scans were normal and following his birth, he was discharged home on oral feeds. Initial examination demonstrated a right-sided intra-abdominal mass but the abdomen was otherwise soft and non-tender. A plain abdominal radiograph demonstrated a paucity of gas in the right upper quadrant. Otherwise there was an unremarkable gas pattern. A

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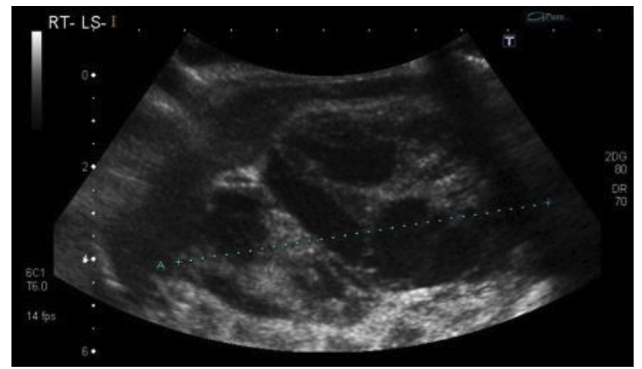
E-mail address: [alexcho@doctors.net.uk](mailto:alexcho@doctors.net.uk) (A. Cho).



**Fig. 1.** Admission abdominal radiograph.



**Fig. 2.** Upper gastro-intestinal contrast study demonstrating hold-up of contrast at the second part of the duodenum for 25 min.



**Fig. 3.** Renal ultrasound demonstrating a large multi-lobulated cystic mass surrounding the anterior aspect of the displaced right kidney.

nasogastric tube was passed and bile-stained fluid was drained. The serum electrolytes were normal. He was then referred to the local pediatric surgical unit.

An abdominal ultrasound demonstrated a large multi-lobulated echogenic mass in the right upper quadrant and subsequent CT scan demonstrated a multi-lobulated urinoma with compressed renal tissue on the right with a thick-walled bladder. A micturating cystogram confirmed the presence of posterior urethral valves. A diagnosis of intestinal obstruction secondary to the urinoma was made and a percutaneous nephrostomy was undertaken resulting the drainage of a large collection of urine. After a subsequent resection of posterior valves, the child made a complete recovery and was discharged home. Subsequent renal ultrasound scans had confirmed complete resolution of the peri-nephric urinoma.

### 3. Discussion

Posterior urethral valves are a common reason for referral to the pediatric urologist and were originally described in 1919 [2]. The severity of the obstruction is highly variable and leads to a number



**Fig. 4.** CT scan demonstrating a large right-sided urinoma displacing small bowel to the left.

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