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## Intestinal bilious vomiting — An unusual presentation of intestinal atresia in the newborn

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### Summary

A female pre-term infant was delivered to a teenage mother who had fresh "meconium-stained" liquor during labour. At resuscitation, the baby had copious amount of greenish effluent coming from and also sucked out of the pharynx and stomach. She was subsequently diagnosed as having ileal atresia; the initially thought "meconium stained" liquor was the result of in-utero bilious vomiting, secondary to the intestinal obstruction. She had resection of the atretic bowel and end to back anastomosis; she died 24 days post-operatively.

### Résumé

Un enfant femelle prématuré est accouchée chez une mère adolescente qui avait "le liquide amniotique colore de méconium" pendant l'accouchement. Pendant la ressuscitation, l'enfant avait de copieux liquide verte, fluant du pharynx et de l'estomac. Elle était en fin diagnostiquée d'avoir l'atrésie de l'iléon; le liquide pris au debut d'être "coloré de méconium" était la conséquence de vomissement bilieux in utero, à cause de l'obstruction intestinale. Elle avait la résection de l'atrésie et une anastomose; elle mourait 24 jour après l'opération.

### Introduction

It is widely accepted that meconium-stained liquor is a classic sign of fetal distress/hypoxia; this liquor which may be green or brown fills the pharynx and stomach and in some cases the trachea and bronchial tree. Its presence will therefore necessitate prompt tracheal aspiration under direct vision before subsequent ventilation of the newborn baby, in order to prevent meconium-aspiration syndrome. There have however been some cases of bilious vomiting reported in England occurring in utero, misdiagnosed as meconium-stained liquor. As far as I am aware, this is the first case report in Nigeria. The case concerns a female child with ileal atresia who presented with in utero bilious vomiting which was

misdiagnosed as maternal "meconium-stained" liquor. The child was subsequently found to have ileal atresia.

### Case report

A 2.1kg female baby was delivered at 34 weeks of gestation to an 18-year old primigravida; the pregnancy was uneventful and there was no polyhydramnios. Antenatal ultrasound scan was not performed. Labour lasted 7½ hours, the membranes having ruptured spontaneously 45 minutes before delivery. The liquor was said to have been "meconium-stained" and there was intra-partum maternal pyrexia of 39°C. There was no birth asphyxia. On suctioning, fresh "meconium" was aspirated from the pharynx; there was no "meconium" below the vocal cords. Immediate transfer to the Special Care Baby Unit was effected because of probable septicaemia (based on maternal intra-partum pyrexia) and the low birthweight. Examination revealed a female neonate with normal facies. There was abdominal distension, with visible bowel loops but no organomegaly. The anus was perforate and rectal examination revealed a normal sphincter tone with no rectal anomaly detected; "meconium" was found on the examining finger. The examination of the other systems was normal. The management consisted of continuous gastric decompression by a naso-gastric tube, nil orally and intravenous fluid (glucose 7gm/kg/day i.e. 10% glucose with the electrolytes added on day 2, anti-biotics, cloxacillin i/v and gentamicin i/m at the standard doses and frequencies). The baby did not open her bowel till the 6th day of life when she passed pellet-like dark stool. The initial suspicion of septicaemia was confirmed by the isolation of *Staphylococcus aureus* from the culture of blood taken on day 1 of life. Erect abdominal X-rays done on the 6th day of life showed gaseous distension and few air fluid levels. A diagnosis of ileal obstruction was made and at operation on the 7th day of life, two mid-ileal atretic portions separated by a 5cm



collapsed loop were found. The gut was normally rotated, there were no congenital bands but there was microcolon. Excision of the atretic ileum and the last 10cms of the distended loop and an end to back anastomosis were carried out.

Post-operatively, the condition worsened due to the overwhelming septicaemia and the non-availability of total parenteral nutrition (which entailed the use of glucose at 7-12gm/kg/day only). Additionally, there was also the complication of wound dehiscence following infection. The baby died on the 24th day post-operatively.

### Discussion

The presence of meconium stained liquor is an ominous sign of fetal distress and it necessitates tracheal aspiration under direct vision, in order to prevent meconium aspiration syndrome or reduce the severity of the disease[1]. Occasionally however this may not really be meconium stained-liquor as borne out by two recent reports from England[2,3]. The baby reported here was delivered vaginally and the liquor was thought to be meconium-stained; subsequent review revealed this to be bile-stained vomiting, secondary due to ileal atresia.

Pointers to the presence of intestinal obstruction in the newborn include emesis of bile, abdominal distension and failure to evacuate meconium in the first 24 hours of life[4]. Other signs, though more subtle, include respiratory difficulty, excessive salivation, the presence of an abdominal mass, jaundice (within 24 hours of birth) and lethargy. The reported case presented with copious amounts of bilious aspirate (initially thought to be fresh meconium) and abdominal distension which was attributable to the neonatal septicaemia. Although there are many causes of vomiting in the newborn, any neonate who vomits bile-stained material should be investigated for intestinal obstruction. Additionally, non-passage of true meconium stool in the first 24 hours of life should lead one to suspect an intestinal obstruction. However, the presence of stool does not rule out the possibility of an obstruction, as evidenced by this case under report. Despite this, the erect abdominal X-ray showed three fluid levels and

the pre-operative diagnosis of ileal obstruction was confirmed at operation. Clinical observations and experimental studies in animals suggest that jejuno-ileal atresias are the results of late intra-uterine mesenteric vascular accidents[4]. The atresia may be discrete, involving a short segment of the ileum, or it may be multiple.

This case is reported to alert health workers caring for the newborn, especially Obstetricians and Paediatricians, to the problem of mistaking bile-stained vomiting for "meconium-stained" liquor, as delay in diagnosis and treatment may adversely effect the outcome. Hence all babies, having bile-stained vomiting should have a minimum of plain abdominal X-ray or ultra-sound examination of the abdomen if this is available. A plea is also made for routine antenatal ultrasound of all pregnant women irrespective of the quantity of the amniotic fluid; by so doing many congenital abnormalities may be diagnosed early and management planned even before the birth of the baby.

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