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CASE REPORT

Intussusception in pregnancy: report of a case

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Abstract
A 35 year old Gravida 10 Para $^{8+1}$ (7 alive) presented with three months amenorrhoea and acute onset of abdominal pain with vomiting and constipation. Clinical and sonological evaluations were supportive of an intussusception occurring in a first trimester twin pregnancy. She was resuscitated and had ileal resection with end to end anastomosis. She subsequently had home delivery at term with resultant perinatal death of the second twin and severe anaemia. As intestinal obstruction is a rare but serious event in pregnancy, the importance of high index of suspicion in the evaluation of abdominal pain in pregnancy is emphasised. The usefulness of ultrasound in the early diagnosis of intussusception in pregnancy is discussed.

Key words: Intussusception, pregnancy, diagnosis, ultrasonography

Introduction

Intussusception uncommon in adults and rarely reported in pregnancy. The incidence of intestinal obstruction in pregnancy has been reported to range between 1:68,000 to 1:1500 deliveries. [1 - 3] Adhesive bands (commonly following appendicectomy) accounted for over two-third of cases in many reported series, followed by volvulus which is responsible for 25% of cases. [1- 4] Intussusception and other causes of intestinal obstruction such as external hernia, tumours and ogilvie's syndrome (pseudo-obstruction of the colon) accounted for 10% of cases. [2, 3] Roberts et al [5] recently reported a case of Ogilvie's syndrome following a caesarean delivery. In the tropics the role of intestinal ascariasis causing intestinal obstruction in pregnancy has been stressed in a recent case report by Mendez et al. [6] Congenital case of intussusception has recently been reported. [7]

Intestinal obstruction in pregnancy is associated with high maternal and perinatal mortality. In the series of Perdue et al, [4] maternal and perinatal mortality were 6% and 26% respectively. The high maternal and perinatal mortality has been attributed to the difficulty in the early diagnosis of intestinal obstruction during pregnancy, because the classical symptoms of abdominal pain, vomiting and constipation are common complaints and liable to be overlooked or passed off as normal discomforts of the pregnancy state.

Intussusception is commonly seen in children and is usually not associated with organic lesions. [8, 9] Recently ultrasonography has been found to be helpful in the early diagnosis of intussusception in pregnancy. [10] This is a report of a case of intussusception complicating a twin gestation in the first trimester, encountered at the Ahmadu Bello University Teaching Hospital Zaria. During the period, it was the only case of intestinal obstruction in pregnancy seen in our center since January 1997 during which 4,399 deliveries were conducted.

Case report

A 35year old House wife Gravida 10 Para $^{8+1}$ (7 alive) admitted into the prenatal ward on the 22nd March 2000 with amenorrhoea of three months, abdominal pain and vomiting of five days duration. The abdominal pain was colicky, initially at the right iliac fossa but became generalised with associated bilous vomiting and constipation. There was no history of abdominal distension, or urinary symptoms. Apart from a first trimester spontaneous abortion, all her previous pregnancies were carried to term and deliveries were conducted at home. The fifth child died of a febrile illness at two years of age, and her last confinement was in 1998. She never had any surgical operation.

Physical examination revealed an acutely ill woman who was moderately dehydrated but not pale, afebrile (T = 37.2^{0}C) and weighed70.5kilogrammes. The chest was clinically clear. The pulse rate was 90 beats per minute and regular. The blood pressure was 120/70mmHg and the precordium was normal. The abdomen was full, moved with respiration and soft. There was a palpable tender, firm sausage shaped, slightly mobile mass in the right iliac fossa measuring about 8cm by 8cm. The liver, spleen and kidneys were not palpably enlarged.

Uterus was consistent with 14 weeks gestational size. There was no demonstrable ascites but the bowel sounds were exaggerated. Pelvic examination revealed normal vulva and vagina. The cervix was healthy, soft and posterior with the Os closed. The uterus was bulky consistent with 14 weeks gestation and soft. Both adnexae were free and the pouch of Douglas was empty. The rectum was empty and examining finger was stained with scanty faecal matter. A clinical impression of intestinal obstruction in pregnancy probably due to intussusception was made with differentials of appendiceal mass and twisted ovarian cyst.

An urgent abdomino-pelvic ultrasonography demonstrated dilated loops of bowel with multiple ecodense and ecolucent rings in the right lower quadrant of the abdomen - the >key board sign=. The uterus contained a dichorionic diamniotic viable feotuses, both with gestational age of 12 weeks and three days.

Resuscitation was commenced and a size 16 Foleys catheter was inserted into the bladder to monitor urine output. Nasogastric tube was passed for decompression / drainage and about 1.5litres of bilous content was drained on insertion. Serum urea level was slightly raised with accompanying hypokalaemia and hyponatrieamia. Packed cell volume was 36% and white cell count revealed leukocytosis.

Electrolyte imbalance was corrected with intravenous normal saline and full strength Darrow's solution. Parenteral antibiotics - ampiclox, gentacine and metronidazole were given for 72 hours. Laparatomy was performed under general anaesthesia about six hours after admission via a midline subumbilical incision. Ileo-ileal intussusception with strangulation was evident, about 72cm from the ileo-ceacal junction. Resection (about 40cm of bowel) and end to end anastomosis in two layers was done. The postoperative course was uneventful. Graded oral sips were commenced on the fifth postoperative day. The abdominal wound healed satisfactorily. She was registered for antenatal care and discharged home on the ninth postoperative day to be followed - up in the antenatal clinic. Histopathological examination of the resected bowel confirmed intussusception with hemorrhagic infarction and no evidence of any intraluminal lesion. She was not seen until at 34 weeks gestation, and was doing well. She weighed 82 Kg. The blood pressure was 140/70mmHg. The fundal height was consistent with 36 weeks gestation. Repeat ultrasonography revealed dichorionic, diamniotic twin both alive and presenting cephalic. Urinalysis was negative for protein and sugar and her packed cell volume was 33%. She was slated for weekly visit until delivery and counseled for hospital confinement.

However she defaulted subsequent prenatal visits. She went into spontaneous labour at home, six days before presentation and after about five hours of labour, she delivered the first twin- male and alive. The second twin also male was delivered about an hour later followed by a single large placenta. She however lost considerable amount of blood postpartum estimated to be about one litre. The second twin was severely asphyxiated and died few hours after birth. She was admitted into the postnatal ward with anemic heart failure (packed cell volume of 17.5%) and severe pre-eclampsia (blood pressure 170/110mmHg).

Anaemia was corrected with three units of packed cells (one unit daily with intravenous frusemide 80mg given just before each transfusion) and hypertension controlled with parenteral hydralazine and oral nifedipine and alpha methyldopa. By the 5th post admission day, she had made remarkable improvement and was out of cardiac failure. Blood pressure had stabilized at 130-140mmHg (systolic) and 80-90mmHg (diastolic).The post transfusion packed cell volume was 30%. She was discharged on the eighth post admission day.

Subsequent follow-up in the postnatal clinic was satisfactory. By the 4th week postpartum blood pressure had normalised and anti-hypertensives were withdrawn. She was no longer proteinuric. By the 6th week post delivery, her general condition and that of the surviving first twin were satisfactory. Examination revealed normal findings. Packed cell volume was 33% .She was counseled for long term contraception including bilateral tubal ligation. She opted for Norplant and was discharged to the family planning clinic.

Discussion

Intestinal obstruction in pregnancy is a rare but serious event in pregnancy and intussusception is not a common cause of intestinal obstruction in pregnancy. [1- 4] Intussusception occurring in an adult is commonly associated with an intraluminal lesion as the leading point. The lesion is usually benign when it involves the small bowel and malignant when associated with the large intestine. [8, 9] In this case, no intraluminal lesion was encountered. 75% of intussusception is of Ileo-colic type followed by Ileo-ileal and colic-colic types. [8, 9] This patient had an ileo-ileal intussusception.

Pregnancy duration has been noted to be a risk factor in intestinal obstruction. [2 - 4] Classically three time period are described in the literature, during which the risk of obstruction is greatest; (a) in the second trimester (16 - 20 weeks) when the uterus change from being a pelvic to an abdominal organ, thereby causing traction on previous adhesion. (b) In the late 3rd trimester when the fetal head descends into the pelvis and (c) in the puerperium, when the sudden change in uterine size alters the relation of adhesions to surrounding bowel [2]. In this case, being multiple gestation, the uterus was already an abdominal organ at the time of diagnosis. We agree with the observation of Shenhav [10] stressing the usefulness of abdominal ultrasonography in the diagnosis of intussusception in pregnancy. In our case, ultrasound was diagnostic that we find it unnecessary to do plain abdominal x-rays. In addition, it eliminates the hazard of radiation to the fetus. The differential diagnosis of twisted ovarian cyst and appendiceal mass were also ruled out by ultrasonography. We recommend ultrasonography as part of the investigation protocol for all suspected cases of intestinal obstruction in pregnancy.

Maternal and fetal morbidities from intestinal obstruction are greater in the third trimester or when strangulation or perforation occurs. In this case, although strangulation had occurred, the postoperative course was uneventful.

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