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Spontaneous rupture of bladder in puerperium

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Abstract

Spontaneous rupture of bladder and extravasation of urine in the peritoneum without evidence of trauma is rare. This condition is an emergency. It presents in a unique way therefore, the diagnosis and treatment is usually delayed. This patient presented with an acute abdominal pain and oliguria. She had delivered normally eight days before re-admission. Investigations were done and an exploratory laparotomy was performed. There was a tear in the fundus of the bladder and the peritoneal cavity contained urine. Peritoneal lavage was done and the bladder was repaired in layers. She was put on continuous bladder drainage for three weeks followed by bladder training. The bladder resumed its normal function. Early diagnosis and appropriate management decreases the morbidity and mortality associated with this condition.

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Case report

This was 20-year-old prime Para who had a normal delivery. She gave birth to a female baby whose Apgar score 8 and weighed 2800grammes. The labour lasted 14 hours, the second stage lasted 40 minutes and third stage 10 minutes. She was discharged from Mulago hospital in good condition.

On the ninth day post partum she reported back with severe lower abdominal pain, abdominal distension, a fever and difficulty in breathing for one day. She had opened her bowels and passed urine. Clinically she was sick looking, afebrile with cold extremities and had a mild pallor of the mucus membranes. The pulse rate was 110 beats per minute with a small volume and the blood pressure of 90/50 mmHg.

The abdomen was distended and was tender. There was guarding with rebound tenderness and there was evidence of free fluid in the fluid in the abdomen. The uterus was sub-involuted and its size was 14 weeks. Vaginal examination revealed an open cervix with foul smelling lochia.

An abdominal ultra sound scan was done. It showed a bulky uterus, the bladder with little urine in it and free fluid in the peritoneal cavity. A diagnosis of peritonitis was made. The patient was started on antibiotics and prepared for laparotomy. The bladder was catheterised and drained only 100 mls of urine which was turbid.

At laparotomy, the abdominal cavity contained one litre of urine, which was purulent. The uterus was 14 week's in size and there was no evidence of perforation. The omentum was adherent to the bladder. The omentum was separated from the bladder. This revealed a tear in the fundus of bladder, which was seven centimetres long. The edges of the bladder were thickened and necrotic but the bladder wall was normal. The edges were refreshened and the bladder was repaired in two layers. A flap of omentum was grafted on the repaired site. A corrugated drain was left in abdomen. Continuous bladder drainage was instituted using urethral catheter for three weeks and bladder training was done. Bladder function returned to normal after four weeks. Cystoscopy was done four weeks later and the bladder was found to have healed.Histology report revealed necrotising cystitis.

DISCUSSION

Spontaneous bladder rupture is usually described in association with recent trauma, malignant diseases, anatomical outflow obstructions, indwelling catheters, instrumentation, neurogenic bladder or a combination of

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these [1] There are rare reports of bladder rupture associated with pregnancy and the reported ones are associated with bladder diverticulum antenatally [2] ,at caesarean section[3] and a trial of labour following caesarean section [4]

Rupture of bladder in puerperium without predisposing factors is a post partum emergency. The usual presentation in spontaneous bladder rupture is that of an acute abdomen. Urine may continue to drain after bladder catheterisation and the injury if unsuspected may go undiagnosed for period ranging from days to weeks. This condition is associated with oliguria, anuria, vague abdominal pain and biochemical changes suggestive of renal failure[5]

Difficulties in passing urine in post partum period does occur but history of oliguria or anuria and vague abdominal pain and an onset of ascites are associated with bladder rupture. The main cause of bladder rupture in this patient was not established. Diagnosis depends on retrograde cystoscopy, analysis of ascitic fluid for urea and creatinine and blood biochemistry suggestive of renal failure and exploratory laparatomy[6] In developing countries where laboratory facilities are not easily accessible, a high degree of suspicion and exploratory laparotomy still remains mainstay of diagnosis.

Operative treatment included removal of urine from the peritoneal cavity, closing the rupture and instituting good vesicle drainage. Early diagnosis and prompt surgical treatment decreases the morbidity and mortality associated with this condition.

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