Spontaneous Rupture of Bladder due to a Prolapsed Gravid Uterus

Spontaneous rupture of the urinary bladder during pregnancy is a rare occurrence. No report has been found of a spontaneous rupture due to a prolapsed gravid uterus. Torpin (1940) mentions six or eight reports of urinary bladder rupture associated with retroverted incarcerated pregnant uterus at approximately four months, and a further 60 or 70 cases complicating rupture of the uterus, many of which were associated with violent operative efforts at delivery, and some with rupture of the uterus through an old caesarean scar. Since then Sarkar (1944) has reported a case of spontaneous intraperitoneal rupture of the bladder in association with displaced gravid uterus. Unfortunately, owing to lack of suitable library facilities in Borneo, it has not been possible to obtain and read these papers for more detail.

CASE REPORT

The patient, a Chinese housewife aged 30, first attended the out-patient department of the Duchess of Kent Hospital, Sandakan, on December 6, 1957, complaining of a prolapsed uterus, which she had had since the birth of her first and only child five years previously. The pregnancy and delivery had been normal, and the child was living and healthy. She had had no miscarriages and her menstruations had been regular until three months previously, when they had ceased. She was unable to give the exact date of her last menstrual period. She also complained of passing only a little urine, but there was no suggestion of dysuria or increased frequency of micturition. The only abnormality found in the urine was an occasional pus cell. Abdominal examination revealed nothing abnormal. Vaginal examination revealed a complete procidentia, with a cervix which was hypertrophied and cornified protruding through the vulva. The body of the uterus was enlarged to a size consistent with a three-months pregnancy. The prolapse could be reduced, but this caused considerable discomfort, and the uterus descended immediately pressure was released, even when she was lying flat. She was advised to return home to a very sedentary life, and instructed in simple hygienic measures in the slight hope that she might be able to retain the pregnancy until the foetus was viable.

She was next seen on December 18, when she was brought into hospital as an emergency case, giving a history of onset of acute generalized abdominal pain one hour before, when she awoke from an afternoon sleep. She had been perfectly well since her visit to hospital and until she had fallen asleep that afternoon. She remembered that she had been lying face downwards when she fell asleep. When examined she was obviously in great pain. There was slight distension of the abdomen and marked generalized tenderness and rigidity. The condition of the prolapse was as it had been when she was first seen. There had been no vomiting and no bowel action that day. On catheterization a pint (570 ml.) of blood-stained fluid was withdrawn.

Laparotomy was decided upon. Under heavy spinal anaesthesia the abdomen was opened through a mid-line lower abdominal incision, and 4½ pints (2,560 ml.) of blood-stained urine was aspirated from the abdominal cavity, and a 2½-in. (6.4-cm.) tear was found in the fundus of a thin-walled bladder. The tear was sutured in two layers with catgut, a pelvic drain inserted through the abdominal wall over the left iliac fossa, and the abdominal wound closed in layers. She was returned to the ward and given penicillin and streptomycin daily for one week. The bladder was drained continuously through the catheter that had been left in since before the operation. An intravenous dextrose-saline infusion was given for two days, by which time bowel action was established and she was taking adequate fluids by mouth.

Recovery was relatively uneventful. The first day after operation she had a temperature of 101.6° F. (38.7° C.); this daily became less, until on the seventh day she was afebrile and remained so. The drainage tube was removed on the third day and both wounds healed without trouble. For the first two days after operation there was some abdominal distension, but a good flatus and faecal result from an enema on the second day relieved this immediately, and there was no further trouble. The continuous bladder drainage was kept up for three weeks, after which the catheter was clipped off and released at hourly intervals for three days, then at intervals of one and a half hours for a further three days, until at four weeks the catheter was removed for two hours at a time each day and she was encouraged to pass urine spontaneously. At first she was able to pass only about ½ oz. (14 ml.) at a time and there was a residual urine of 2½ oz. (71 ml.). The residual urine gradually decreased until at six weeks she was passing urine normally. No further catheterization was needed except as infrequent checks of the residual urine.

On February 14, 1958, she was discharged from hospital at her own request, to celebrate the Chinese New Year. At this time the uterine fundus was about the size of a 20-weeks pregnancy. Foetal movements were felt but the foetal heart could not be heard. The prolapse was *in statu quo*, an enlarged cervix protruding through the vulva. She was readmitted three weeks later, so that she could be kept under observation, though she was none the worse for the time she had spent at home.

On May 21, when it was thought the pregnancy was approaching full term, a classical caesarean section was performed under heavy spinal anaesthesia and a full-term living infant was delivered. She was discharged from hospital, with her baby, on June 16 after making an uneventful recovery from this operation. Unfortunately she never returned for the repair operation which was advised, and has not been seen since.

COMMENT

The decision to send this patient home after her first visit without any active treatment was made because it was thought that operative repair of the prolapse would probably be unsuccessful and would almost certainly induce abortion. A ring pessary was not tried, because again it was thought that this would induce abortion, apart from the discomfort she suffered when the prolapse was reduced.

After the rupture of the bladder the immediate conclusion was that it had resulted from an instrumental attempt to procure abortion. However, there seems to be no doubt that the history was true, and the bladder had ruptured spontaneously. The patient was extremely anxious to keep the pregnancy, as she had only one child, and that five years before. It seems unlikely that if she had tried to procure abortion, by using instruments, she could have missed the opening of a prolapsed cervix and passed something up the urethra. She also gave a history, when first seen, of passing only a little urine, though there was no evidence of a distended bladder. A prolapsed gravid uterus seems sufficient cause for acute urinary retention.

I am indebted to the Director of Medical Services, North Borneo, for permission to publish this case; to Dr. B. Purdy, who took over the care of this patient, after my transfer from Sandakan, and performed the caesarean section; and to Dr. I. Polunin and the librarian of the British Medical Association, who searched the literature on my behalf for reports of similar cases.

JOHN GRAVES, M.R.C.S., L.R.C.P.,
Medical Officer, North Borneo.

REFERENCES

- Sarkar, A. N. (1944). *J. Indian med. Ass.*, 13, 113.
Torpin, R. (1940). *Urol. cutan. Rev.*, 44, 554.