INCARCERATED RETRO-GRAVID UTERUS

(RESULTING IN GANGRENOUS BLADDER)

(A Case Report)

by

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Introduction

In a great majority of cases, spontaneous rectification of the retroverted gravid uterus occurs soon or after the twelfth week of pregnancy and the uterus thereafter develops normally as an abdominal organ. However, in some instances the pregnancy may terminate in an abortion, or sacculation and incarceration of the retroverted gravid uterus may occur. Very rarely, gangrene of the bladder may result from an unrelieved, incarcerated, retroverted gravid uterus. The rarity of such an eventuality has prompted this case report.

Case Report

Mrs. S., aged 30 years, 6th para, 3 children living, was admitted on 9-3-1963 at the Upper India Sugar Exchange Maternity Hospital, Kanpur, in a semiconscious state. She was having amenorrhoea for the past 6 months, bleeding per vaginam, acute distension of the abdomen, inability to pass urine and severe pain in the abdomen since the last 5 days. She could, however, pass a little urine by applying pressure over the lower abdomen.

On general examination the patient was found to be in a semiconscious state and emaciated, with a toxic look. Her general condition was poor. The blood pressure was 68 mm of Hg. systolic.

The abdomen was very much distended and tender on palpation. Foetal parts were not palpable. Vaginal examination revealed the posterior vaginal wall to be unduly bulging and the cervix to be lying high up behind the pubic symphysis and reached only with difficulty. The uterus could not be satisfactorily defined from a cystic lump felt in the posterior fornix. A rectal examination revealed a firm tender mass extending up to the middle of the posterior vaginal wall. Immediate catheterization of the bladder brought out foul-smelling urine mixed with blood. Pre-operatively, the patient was given a blood transfusion and also intravenous fluids. Anti-gas gangrene and anti-tetanic serum injections were given. This resuscitative therapy was followed by an exploratory laparotomy.

A mass, bluish black in its upper part was seen filling up the abdominal cavity. There were blebs over its surface. An attempt to define it resulted in extravasation of urine through its friable walls. The mass was found to be the bladder which was gangrenous in its upper part. Adhesions were cut and the bladder pushed aside. The uterus was found to be 22 weeks in size and impacted in the pouch of Douglas.

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Having disimpacted it, hysterotomy was done and a macerated foetus extracted. Sterilization was also done. A partial cystectomy and extraperitonisation of the bladder were carried out. A drainage tube was inserted and the abdomen closed. Intravenous fluids, antibiotics and blood transfusion were given, and Ryle's tube suction and bladder washes with urinary antiseptics were carried out in the post-operative period. After 48 hours, the drainage tube was removed and the suprapubic catheter was removed after 10 days.

Reports of some of the routine and special investigations carried out on 13-3-1963 were as follows: Total red blood cell count 3.1 mill/cu. mm., total leucocyte count 13,500, differential leucocyte count, polymorphs 86, lymphos 14, eosino 0; E.S.R. 36 mm./1st hour; bleeding time 3 mt. 15 sec. Coagulation time 3 mt. 40 sec. The blood urea report showed the level to be 180 mgm% and during subsequent examinations the level fell to 40 mgm% within 6 weeks. Culture and sensitivity report of urine taken on 23-3-68 revealed a typical growth of B. coli, resistant to penicillin, streptomycin, achromycin, furadantin and ledermycin. Postoperatively, the patient remained in a febrile state for a prolonged period. She developed repeated attacks of cystitis, and was given frequent bladder washes, and urinary antiseptics. All these were of no avail. The suprapubic wound failed to heal and an abdominal fistula developed. A fistulectomy was therefore carried out on 21-12-63 and a subsequent cystography showed the bladder as having "a good capacity; outline smooth." No extravesical fistulous tract was visualised. The patient, thereafter, made a gradual recovery and was discharged on 7-1-1964.

Discussion

The incidence of uncomplicated retroversion was found by Fouracre Barns (1947) in his study of 474 cases, to be 5.5% in primiparae, and 6.5% in nulliparae. Polak (1926), in a survey of 2000 cases, came to the conclusion that 18% of primiparae and 35% of nulliparae have a retroverted gravid uterus. Usually, in fact, in a large number of cases it has been observed that spontaneous rectification occurs at or soon after the 12th week. The uterus then develops normally and besides some heaviness in the pelvis the condition may be symptomless. This subject has been the centre of much discussion by Atlee and Brackett.

Sometimes the retroverted uterus fails to rectify itself spontaneously and incarcerates, which condition, if unrelieved, may become complicated by (1) cystitis (2) bilateral hydronephrosis and uraemia (3) gangrene and exfoliation of the vesical mucous membrane and (4) rupture of the bladder, which is extremely rare.

Reported cases of incarceration of the gravid uterus are few. This condition was first described by William Hunter in the year 1754. He not only lectured extensively on this rare but serious complication but also gave an exhaustive description of it. Even before him, Gregoire of France and Kilmann of Germany incidentally referred to this condition.

According to Eastman and Hillman, it may perhaps be observed once in every two to three thousand pregnancies. Gangrene of the bladder as a result of the incarceration of the gravid uterus is rarer still. Brackett, in 1948, stated that of the 325 personally observed patients examined before the 4th month of pregnancy, 54 (16.6%) had retroverted uterus. In no case, however, did incarceration occur. Atlee, 1947, in a study of approximately 4000 cases, met with only one case of incarceration of the gravid uterus. Kuber (1957-58) reported a case of incarceration of the gravid

uterus. Gottschalk, in a collective study of 67 cases of incarceration of the gravid uterus, gave the following figures as an illustration of the most frequent causes of death.

Peritonitis of vesical origin ..	17
Uraemia ..	16
Rupture of bladder ..	11
Septicaemia of vesical origin ..	4
Gangrene of bladder ..	3

Berge, having made a study of 90 fatal cases of incarceration of the gravid uterus, was of the opinion that in 80% of cases the cause of death was some complication of the urinary bladder.

The onset of incarceration is heralded by characteristic symptoms. To begin with the patient may complain of bachache, lower abdominal pain and a bearing-down feeling in the pelvis. The bladder then becomes irritable. There is dysuria and increased frequency of micturition. Sinclair states that frequency of micturition precedes the onset of retention. Later on, there is retention with overflow incontinence, developing into a paradoxical incontinence about 3 days after the onset of the retention.

The cause of retention of urine is imperfectly understood. According to Gibberd (1938), the elongation of the urethra leads to an upset in the neuromuscular mechanism of the bladder resulting in retention of urine. Brown (1946) is of the opinion that retention is due to the mechanical pressure upon the neck of the bladder combined with elongation and narrowing of the urethra. Reed (1904), however, regarded the retention to be the result of a form of "pressure paralysis", there being an interference with the nerves supplying the bladder. Mechanical pressure upon the neck of the bladder and elongation of the urethra by the displaced cervix are obvious reasons for the retention. However, probably oedema of the bladder wall produced by the cervix pressing upon the bladder and retarding the circulation about the neck of the bladder, is the initial local change. Various explanations have been given so far as to how and why the incarceration of the retroverted gravid uterus occurs. It is said that old adhesions or tumours may be the probable cause for the persistence of displacement. The chief cause of incarceration is the presence of an unusually deep sacral concavity with an overhanging promontory. In our case it was not clear as to whether the adhesions found were the cause or the effect of incarceration. Several writers have described the cervix as dividing the bladder cavity into two unequal parts and causing retention. With the increasing amount of the retained urine the bladder gradually distends to attain alarming proportions. The bladder wall becomes thickened mainly on account of the oedema and in part due to a true hypertrophy of the bladder wall.

Soon cystitis develops and portions of the necrotic mucous membrane starts shedding off. Rarely, even the muscular coats of the bladder may become separated and expelled per urethra. The urine passed now contains blood. In some cases it may so happen that the necrotic bladder, no

longer able to withstand the increasing pressure of the retained urine, ruptures, the extravasated urine causing fatal peritonitis. The distended and inflamed bladder may in turn, by ascending infection, cause distention and infection of the ureters and kidneys resulting in pyelitis and even pyonephrosis. As this complication is allowed to progress, symptoms such as feeble rapid pulse, furred tongue, and restlessness develop, culminating in delirium and death. The pressure of the distended bladder may so adversely affect the nutrition of the uterus as to cause secondary infection. The uterus then becomes densely adherent to the surrounding structures, as was observed in our case. Rarely, rupture of the uterus may occur, Maiss (1900).

The incarcerated uterus may, at times, protrude through the vulva or the anus. Barnes (1886) reported a case in which the fundus bulged into the vagina. Brandao-Filho (1932) described a case in which a 5 months' gravid uterus bulged through the anus.

Pregnancy associated with a tumour of the ovary, fibromyoma of the uterus located in the pelvis or a pelvic haematocele may simulate or be simulated by a retroverted gravid uterus.

When incarceration is diagnosed hospitalization and prompt treatment of the patient becomes imperative. The bladder should be catheterised immediately and kept empty. In many cases this in itself is sufficient to correct the displacement. If correction does not occur then local manipulations may be attempted. The patient should be placed in the knee-elbow position or Sim's position and manual reposition tried. Should this too fail then special manouvres may be tried. If these measures also fail laparotomy must be resorted to.

Summary

1. A case of incarcerated retroverted gravid uterus resulting in gangrene of the bladder has been described.

2. Review of the literature, differential diagnosis and treatment are discussed.

3. The marked power of the bladder to regenerate is illustrated by the cystography report.

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