A CLINICAL REVIEW OF 400 CASES OF PROLAPSE OF THE UTERUS

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Prolapse of the uterus is the commonest gynaecological condition met with in this part of India (Assam). There were 400 cases of prolapse of the uterus among 1,664 gynaecological cases admitted into the Assam Medical College Hospital between September, 1948 and November, 1952, giving a percentage of 24.03, compared to my experience in the Madras State where prolapse of the uterus is not so common, the percentage of incidence there being 6.13.

Etiology: Injury or relaxation of the pelvic floor or uterine supports during childbirth is the outstanding predisposing cause of prolapse of the uterus. The common cause of deficiency of the visceral supports is the stretching and lacerations incidental to pregnancy and labour. For this reason, prolapse is common in parous women and rare in primiparae. It may occur in cases in which the deliveries have been quite normal and spontaneous. Straining during the first stage of labour is one of the contributing causes of prolapse. In certain parts it is encouraged by the indigent and ignorant midwives. It is apt to occur in women whose pelvic structures have been exposed to the stretching and damage of a large number of deliveries. In this series, the prolapse of the uterus was most common in women who have delivered between 6 and 10 children.

One bad labour is sufficient, especially if the child has been dragged through undilated passages (cervix), with the result that the cervix and the bladder are pulled down and the pelvic floor is stretched out to tearing point in front of the head. In such cases the important ligaments, transverse and utero-sacral, which are attached to the cervix may be stretched beyond recovery. In addition, the two levatores ani muscles, especially the pubo-coccygeous bellies of these muscles and fascial structures of the pelvic floor, are stretched and torn apart with the production of a permanent gap in the middle line of the pelvic floor through which a herniation of the viscera can readily occur.

Passage of large children also produces the same result. A rapid succession of pregnancies also tends to produce prolapse of the uterus in the same way.

Congenital weakness of the pelvic floor and ligaments also contribute to the etiology of this condition. In this series there were three cases of this type. Ill-health and malaise, asthenia and visceroptosis and any factor such as chronic bronchitis, large abdominal tumour also predispose to the condition.

Out of 400 cases of prolapse of the uterus, 54 cases were met with in primiparae. The largest number was seen among women who had delivered 6 to 10 children. It is rather extraordinary that prolapse developed in a large number of women who had delivered only one child. I have come across patients who had developed prolapse of the uterus after delivery of only one premature child.

There were three cases in women who had not borne any children. They were due to congenital defects where the lavatores ani were weak, not fully developed and far apart, leaving a wide gap.

TABLE I
Incidence as to Age

Age	Number	Percentage
Below 20	19	4.75
Between 20 and 30	187	46.75
Between 31 and 40	130	32.50
Between 41 and 50	55	13.75
Between 51 and 60	7	1.75
Between 61 and 70	2	0.50
Total ..	400	100.00

TABLE II
Incidence as to Parity

Parity	Number	Percentage
Para 0	3	0.70
Para 1	54	14.41
Para 2	63	18.72
Para 3 to 5	111	29.72
Para 6 to 10	121	32.42
Para 11 and above	15	4.03
Total ..	372*	100.00

* Information for 28 cases is not available.

Symptoms. Dragging in the small of the back is an usual and often the only symptom. It is aggravated by exercise and relieved by rest. Even in a marked prolapse of the uterus, this symptom may be absent. This symptom was complained of by 325 patients in this series. In five cases the pain was occasional; 4 patients complained of pain and bulging in the region of the perineum on sitting. In two patients, the pain was constant and of a severe nature. 45 patients complained of dysmenorrhoea of the secondary type.

Bladder symptoms were very common. Frequency of micturition is usually present and is due to the pressing downwards of the bladder into the lower pelvis and vaginal cavity and to a consequent restriction of its capacity. Consequently there is a lowering of the threshold for the evacuation reflex. It is often typically present when the patient is erect and it is aggravated by exertion when it may assume the character of urgency. For obvious reasons the frequency is diurnal. It does not worry the patient when she is recumbent. In few cases there is incontinence on straining or coughing (stress incontinence).

In a large cystocele the patient complains of inability to empty the bladder until she presses back the prolapse into the vagina. In this series, 57 patients complained of burning and painful micturition; 13 complained of difficulty in passing urine, 11 frequent micturition, 4 of stress incontinence and 3 of inability to empty the bladder fully.

Leucorrhoea is usual and is due to

congestion of mucous surfaces where ulcerations from exposure have occurred. The discharge is often blood-stained and foul. In this series 270 patients complained of white discharge.

Constipation is common and is due to loss of power over the levatores ani muscles. In this series 44 patients complained of this symptom.

Menstrual Symptoms. Twenty two patients complained of menorrhagia, 15 complained of irregular bleeding and 12 complained of continuous bleeding.

Other symptoms complained of were difficulty in walking by 6 and dyspareunia by 6 patients.

Associated Pathology. The length of the uterus was found longer in 143 patients. The excess of length varied from ½ inch to 5 inches. The longest was in a case of procidentia uteri. Chronic cervicitis was found in 88 cases without any erosion and in 148 cases with erosion; 8 of these were found to bleed on touch. Three of them were also friable. Ulceration was found in 12 patients.

Ectropion of the cervix was found in 32 patients and deep laceration of cervix in 5, two of these lacerations extending beyond the internal os. The cervix was found split in 12 patients. It was found bulky, hard, indurated and irregular in 15, hypertrophied and elongated in 14, stricture of the internal os in 4, mucous polypus of the cervix in 10 patients and fibroid polypus in 4, one of which was protruding through the external os into the vagina.

In prolapse, the uterus is nearly always retroverted and freely movable so that it can be anteverted easily by manipulation. In this series the body of the uterus was found anteverted in 15, enlarged in 16 and fixed in the retroverted position by adhesions to the rectum in 4, placental polypus was found in 3, submucous fibroid was found in 2, and adeno-carcinoma of the body of the uterus was found in one.

A stick (vegetable twig) was found inside the uterus in one patient. The endometrium was found thickened and polypoid in 2 patients. The uterus was found fixed to the abdominal wall with a thick band as a result of ventrifixation done for prolapse of the uterus 2 years and 5 years ago.

The ovaries were found cystic in 24 patients. Ovarian cysts were found in 6, serous cystadenoma in 3, mucinous cystadenoma in 1, parovarian cyst in 1 and chocolate cyst in 1. There were 6 cases of hydrosalpinx and 1 of tubal mole.

Vagina was found ulcerated in 2 patients. Remains of septum were found in the vagina in 2. Urethral caruncles were found in 7.

Perineum was found torn completely in 2. Rectum was found prolapsed in 2. Divarication of the recti abdominis was found in 3 patients.

Diagnosis was done by inspection, vaginal and speculum examinations.

Clinical Types. Two hundred and ten patients were found with cysto-rectocele, 54 with cysto-rectocele and 1st or 2nd degree prolapse of the uterus, 13 with cystocele, 17 with cystocele and 1st or 2nd degree prolapse of the uterus, 33 with recto-

TABLE III

Incidence as to Other Pelvic Pathology

Serial No.	Pelvic pathology	Number
1.	Longer utero-cervical canal	143
2.	Chronic cervicitis without erosion	86
3.	Chronic cervicitis with erosion	148
4.	Bleeding erosion	5
5.	Bleeding and friable cervix	3
6.	Ulceration of the cervix	12
7.	Ectropion of the cervix	32
8.	Deep laceration of the cervix	5
9.	Split cervix	19
10.	Bulky, hard, indurated, irregular cervix	15
11.	Hypertrophied elongated cervix	14
12.	Stricture of the internal os	4
13.	Mucous cervical polypus	10
14.	Fibroid polypus	4
15.	Anteverted uterus	18
16.	Fixed retroverted uterus	4
17.	Enlarged uterus	16
18.	Placental polypus	4
19.	Stick inside the uterus	1
20.	Thick and polypoid endometrium	2
21.	Uterus fixed to the abdominal wall with thick band	1
22.	Submucous uterine fibroid	2
23.	Cystic ovaries	24
24.	Ovarian cysts	7
25.	Hydrosalpinx	6
26.	Tubal mole	1
27.	Ulceration of the vagina	2
28.	Remains of septa in the vaginal walls	2
29.	Urethral caruncle	7
30.	Complete laceration of the perineum	2
31.	Divarication of the recti abdominis	3

cele, 13 with rectocele and 1st or 2nd degree prolapse of the uterus, 39 with procidentia uteri, 8 with first degree prolapse of the uterus, 12 with 2nd degree prolapse of the uterus and one with procidentia and enterocele.

TABLE IV

Incidence as to Clinical Variety of Prolapse of Uterus.

Serial number	Clinical variety	Number	Percentage
1.	Cysto-rectocele	210	52.50
2.	Cysto-rectocele with prolapse of the uterus	54	13.50
3.	Cystocele	13	3.25
4.	Cystocele with prolapse of the uterus	17	4.25
5.	Rectocele	33	8.25
6.	Rectocele with prolapse of the uterus	13	3.25
7.	Procidentia uteri	39	9.75
8.	Procidentia uteri with enterocele	1	0.25
9.	Prolapse of uterus 1st degree	8	2.00
10.	Prolapse of uterus, 2nd degree	12	3.00

Treatment. Every case was treated by operation. The haemoglobin level was raised to at least 60 per cent by suitable treatment before operation. Urine was examined for pus cells. Most of the patients had a course of santonin treatment preliminary to operation. All of them were operated under spinal anaesthesia. In all cases 1.5 ml. of Nupercaine (1 in 200) was used.

In this series 197 Fothergill's operations, and posterior colpoplasty, 50 anterior and posterior colpoplasty, 25 posterior colpoplasty, 127 vaginal hysterectomy with anterior and posterior colpoplasty and 1 Le Fort's operation were done. Three of them died. The first case had a cysto-rectocele and prolapse of the rectum. Fothergill's operation, posterior colpoplasty and Bonney's operation for prolapse of the rectum were done. She died on the thirteenth day of the operation. The wound healed by first intention and she had no rise of temperature. She vomited five round worms the day after the operation. She would not eat any food and was non-cooperative. She did not want to live as she had no one to take care of her. The second patient, aged 55 years, had procidentia uteri with enterocele. Vaginal hysterectomy, anterior and posterior colpoplasty, and excision of the pouch of Douglas were done. She developed hypostatic pneumonia on the sixth day and died the next day. The third patient had cysto-rectocele and first degree prolapse of the uterus. Fothergill's operation and posterior colpoplasty were done. She had a smooth convalescence till the seventh day after the operation, when she became semi-comatose and died on the thirteenth day after the operation. This gives a mortality of 0.75%.

Fothergill's operation is usually done in those cases where the length of the uterus is longer, along with posterior colpoplasty. These were done in 197 cases. Fothergill's operation is being done here in the usual way with the following modifications. Only a small portion of the vaginal vault is removed. The cut cardinal ligaments are loosened a little by isolating them from the cervix to an extent of about ½ inch. These loosened cardinal ligaments are sutured in front of the amputated cervix so that a thick band ¾ inch broad is in front of the cervix. This procedure keeps the body of the uterus well anteverted. It has not been my experience that the sutures cut through the tissues in a few days under tension, if sufficient tissue on either side is picked and sutured in front. As a matter of fact, the sutures remain snugly, keeping the body of the uterus anteverted. The same procedure is followed without separating the cardinal ligaments when the cervix is not amputated, as in anterior colpoplasty.

The pubo-cervicalis muscles are isolated and sutured as a separate layer, before the vaginal mucous membrane is sutured.

In doing the posterior colpoplasty, one continuous No. 3 chromic catgut suture is used to bring together the musculo-fascial levator sling and the overlying connective tissues to form the perineal body. The skin edges are brought together by a subcuticular stitch. The rectal fascia is invariably repaired where there is

rectocele. In cases where the edges of the levatores ani are widely separated, one should be careful that folds of the wall of the rectum are not picked up by the needle.

In 2 cases, the cervix was lacerated during dilatation and was repaired. Along with this operation, conisation of the cervix was done in 3 patients and linear cauterisation of cervix in 6 patients. Sterilisation by Pomeroy's and Irwing's method was done in 12 patients by bringing out the uterus through the utero-vesical pouch of peritoneum.

In 2 patients the bladder was found firmly adherent to the cervix and vaginal wall. In 2 patients the operation was difficult as they had been operated upon for the same condition 2 years before. In 4 cases of stress incotinence, the neck of the bladder was plicated. The abdomen was opened 27 times to correct the position in adherent uterus, and to deal with other pathology in the pelvis. Salpingostomy, salpingectomy, salpingo-ophorectomy, appendicectomy, Bonney's operation of shortening the round ligaments, plication of round ligaments, ovariotomy, Bonney's operation for prolapse of the rectum, wedge resection of the ovaries, sterilisation and excision of a band left as a result of previous ventral fixation were done.

Anterior and posterior colpoplasty were done 50 times in young women who had no lengthening of the uterus. Sterilisation by Irwing's method was done 13 times through the utero-vesical pouch of peritoneum. The body of the uterus was found perforated in one of these operations. In a case of congenital prolapse, it was found difficult to operate as the pubic arch was very narrow. Abdomen was opened to deal with pelvic pathology in 6 cases. Bonney's operation of shortening the round ligaments, salpingo-oophorectomy, appendicectomy, wedge resection of the ovaries, plication of round ligaments, radical hysterectomy for ovarian abscess and ovarian cyst, Irwing's method of sterilisation and Moschcowitz's operation for prolapse of the rectum, were done. Cervix was cauterised 15 times.

Posterior colpoplasty was done 25 times. Along with this operation conisation of the cervix was done 3 times, linear cauterisation of the cervix 3 times. Trachelorrhaphy was done twice. Abdomen was opened to deal with other pelvic pathology in 20 cases.

Vaginal hysterectomy, anterior and posterior colpoplasty were done 127 times. The uterus was removed only in older women who did not want any more children and with history of pathological bleeding from the uterus. It was also done in patients who had unhealthy cervix. In 2, the uterus had to be removed while doing Fothergill's operation as the cervix was soft and bleeding freely in one and in the other where the cervix was soft and friable.

In 2 patients the uterus could not be removed from below as one had an ovarian abscess and a cyst of the other ovary; and the second had a chocolate cyst of the ovary. In 2 patients there was difficulty in clamping the ligaments on account of the narrowness of the pubic arch and the outlet. Bladder was adherent firmly to the uterus and vaginal wall

TABLE V

Incidence as to Operations performed.

Serial No.	Nature of operation	Number of patients operated	Result	
			cured	died
1.	Fothergills' operation and posterior colpoplasty	197	195	2
2.	Anterior and posterior colpoplasty ..	50	50	—
3.	Posterior colpoplasty	25	25	—
4.	Vaginal hysterectomy and anterior and posterior colpoplasty	127	126	1
5.	Le Fort's operation	1	1	—

in one patient. There was adhesion between the uterus and the rectum in one. Salpingectomy, ovarian cystectomy, salpingo-oophorectomy, oophorectomy, wedge resection of the ovary and ovariotomy were done along with the main operation.

After-Treatment. In all cases India rubber catheter was sutured to the labia minora and kept in for 3 days. The vagina was packed with sulphonamide powder, about 5 Gms. The patient was encouraged to move her legs and to change her position while in bed. She was put on fluid diet for 5 days, and bowels were bound for 5 days with Creta and Catechu mixture. On the sixth night she was given 1 oz. of liq. paraffin with a tea-spoonful of liquid extract of cascara sagrada. Next morning 3 oz. of olive oil were injected into the rectum followed in an hour by a soap and water enema. The bowels were kept open by giving 1 oz. of liq. paraffin every night. In a few cases 50 ml. of watery solution of acriflavine, 1 in 10,000 was run into the bladder twice a day to prevent urinary infection. She had also been put on sulphathiazole 0.5 Gm. thrice a day from the beginning.

The patient was given full diet after the bowels moved. She was kept in bed for 10 days. On the tenth day she was allowed to sit up in bed and to hang down her legs. On the fourteenth day she was allowed to walk and examined per vaginam. On the twenty-first day she was discharged. They were all instructed to come to the hospital for the next delivery. I have come across several cases who conceived and delivered spontaneously after a Fothergill's operation.

Accidents During Operation. Cervix was lacerated twice while doing Fothergill's operation. In 2 patients, the uterus had to be removed as the uterus in the first case was very soft and was bleeding profusely after amputation of the cervix. In the second case the cervix was so friable that it had to be removed.

While doing anterior colpoplasty, the fundus of the uterus in one case was found perforated by cervical

dilators, when the body of the uterus was brought out through the utero-vesical pouch of peritoneum for sterilisation.

In another case, while doing the operation of posterior colpoplasty, the rectal mucous membrane was accidentally included in the suture uniting the two lavatores ani muscles. It was detected and rectified. The wound healed by first intention. Two cases ended in recto-vaginal fistula as a result of similar suturing. This was not suspected at the time of the operation.

Complications. The vagina had to be plugged in two patients for profuse bleeding within 24 hours. In 2 other the vagina had to be plugged on the seventh day for severe bleeding. The plug is usually kept in for 24 hours. In another case of secondary haemorrhage, the abdomen had to be opened to ligature both the uterine vessels to stop the bleeding.

Morbidity. According to the usual standards, 15 cases were morbid due to urinary infection and infection of the wound giving a morbidity rate of 3.2%. There was only one case of phlebo-thrombosis after a Fothergill's operation, in the whole series.

Summary. Prolapse of the uterus is the commonest gynaecological condition met with in Assam, giving an incidence of 24.03 per cent. Four hundred consecutive cases of prolapse of the uterus are reviewed considering the etiology, symptomatology and the pathology.

Cysto-rectocele was the most common clinical variety met with, forming an incidence of 52.5 per cent.

All the cases were treated by operation with a mortality of 0.75 per cent. Important steps of the operations are discussed with diagrams.

Figure 1
The mucosa in front of the prolapse has been incised and retracted exposing the underlying bladder covered by pubocervicalis muscle.

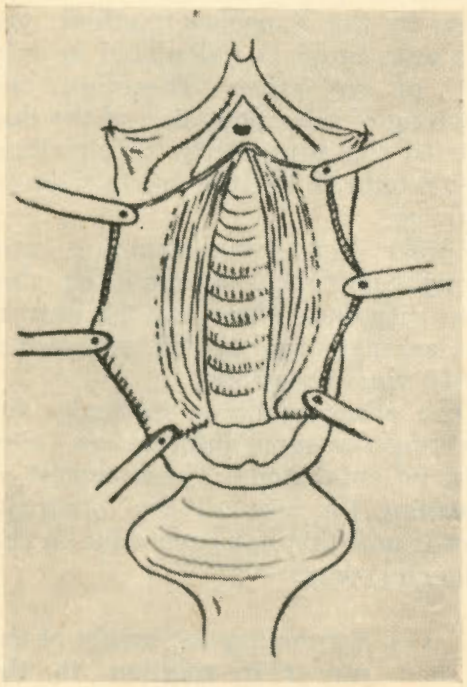

Figure 2
Bladder mobilised; it has been separated from the deep surface of the pubocervicalis muscle

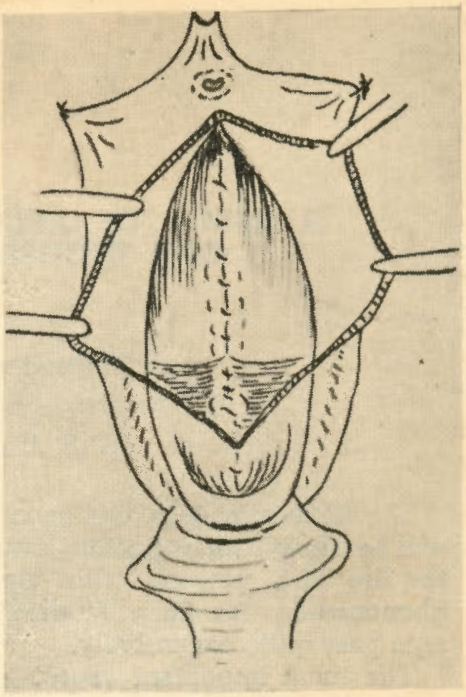

Figure 3
Cervix has been amputated. Advancement of the cardinal ligaments has been made in front of the cervix. The pubocervicalis muscle has been sutured together.

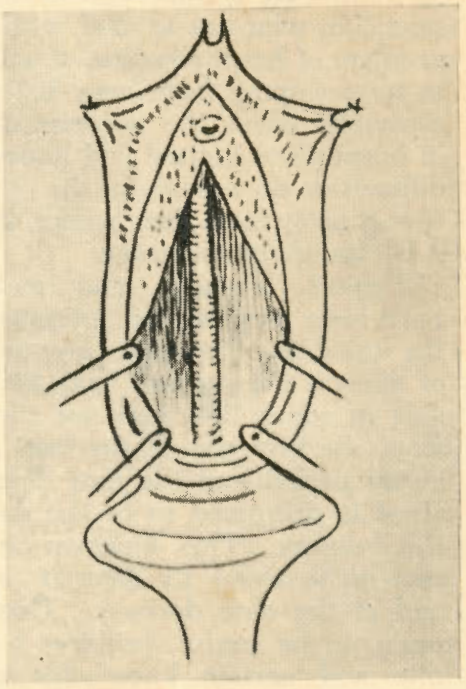

Figure 4
Final result. The mucosa have been sutured together except at the top after excision of the redundant mucous membrane