

OPERATIVE TREATMENT OF GENITAL PROLAPSE (IN YOUNG WOMEN)

by

V. N. PURANDARE*, M.D., F.R.C.S., KUMUD PATIL**, M.D., D.G.O. and
RAJANI ARYA***, M.D., D.G.O.

Operative treatment of genital prolapse in young women poses two important problems before the operator.

(1) Repair of prolapse by a method which will not jeopardise future child-bearing.

(2) Recurrence of prolapse following a vaginal delivery.

A simple answer to this question will be to sterilise the patient at the time of operation. But many of our patients with advanced degrees of prolapse are so young and the infant mortality in this country so high that this possibility cannot be considered.

Material and Methods

With this problem in mind we studied 191 cases of genital prolapse treated by "Manchester Operation" (Fothergill's operation) and abdominal cervicopexy during the 5 year period from January 1956 to December 1960 in the Gynaecological Department of K.E.M. Hospital, Bombay. One hundred and ten patients were treated with Fothergill's operation and 81 with cervicopexy. Each case of genital pro-

From Department of Obstetrics & Gynaecology, K.E.M. Hospital, Parel, Bombay 12.

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lapse has to be judged on its own merits; hence it is very difficult to find strictly comparable groups. Pessary treatment was not possible because of ignorance; moreover the prolapse was of quite a major degree, requiring operative correction.

Selection of Cases

(1) *Age:* Only 30% of the patients were above the age of 30 years. Fothergill published a series of 149 cases in the year 1921; 81% of his patients were above the age of 30 years. In England this operation is done for all patients, irrespective of age, while we do it only for younger patients. For those approaching menopause and past menopause the operation of choice is vaginal hysterectomy with plastic repair; there was not a single post-menopausal case in the present series. Out of the two groups, cervicopexy group comprised a larger number of young patients. The average age of a patient at the time of operation was 30 years in the Manchester (Fothergill) group and 25 years in the cervicopexy group.

(2) *Parity:* Except for 19 patients, all others were parous. Forty-eight (25.14%) developed prolapse following a single vaginal delivery. Women of higher parity were treated with

Manchester operation (Fothergill) with or without sterilisation. Average parity in Fothergill group was 3.4 while that in cervicopexy group 2.7, excluding nulliparae.

(3) *Type of prolapse*: In the majority of cases the prolapse was of the utero-vaginal type as described by Malpas. As the postmenopausal cases are excluded from this study there were not many cases of prolapse due to a failure of the whole of the pelvic floor and particularly the rectal sling of the pubo-rectalis muscle.

It is difficult to get pure utero-vaginal prolapse or anterior vaginal wall prolapse or posterior vaginal wall prolapse. They are often associated.

such patients having a utero-vaginal prolapse; 18 were treated with cervicopexy and only one underwent Manchester operation. In these patients cervical supports were weak and hence they required some additional help to hold the cervix up. There was no appreciable prolapse of the anterior or posterior vaginal walls. No enterocele was encountered in this group.

(4) *Associated vaginal wall prolapse*: Table I-b shows that associated vaginal wall prolapse with marked cytocele was taken up for Manchester repair, while the presence of a rectocele and enterocele did not affect the choice of operation.

Direction of uterine axis did not affect the line of treatment; 72% of

TABLE I-a
Degree of cervical prolapse

Nature of operation	I	II	III	Procedentia	Unknown	Total
Manchester	6	41 (37.37%)	51 (46.36%)	5	7	110
Cervicopexy	3	48 (60.00%)	25 (31.25%)	—	5	81

TABLE I-b
Associated Vaginal Wall Prolapse

Nature of operation	Cystocele		Rectocele		Enterocele
	No.	%	No.	%	
Manchester	84	76.36	51	46.33	3
Cervicopexy	45	56.25	37	46.25	2

Table I-a shows the degree of cervical prolapse. Second degree prolapse was treated more often by cervicopexy while for third degree prolapse the Manchester operation was preferred.

Nulliparous prolapse: Cervicopexy was the operation of choice in nulliparous prolapse. There were 19

the prolapsed uteri were retroverted.

(5) *Length of cervix*: When the cervix was hypertrophic and elongated the patient was selected for Manchester operation. Thus out of 110 patients undergoing this operation, 90 patients had utero-cervical length between $3\frac{1}{2}$ - $4\frac{1}{2}$ " ; 19 between $4\frac{1}{2}$ - $5\frac{1}{2}$ "

while in one patient the utero-cervical length was 6". Cervix was not amputated when the utero-cervical length was less than 3½". There were three such patients.

All the patients selected for cervicopexy had utero-cervical length less than 3¼".

Incidence of Sterility

Table II shows the incidence of sterility.

TABLE II
Incidence of sterility

Nature of operation	Primary		Secondary		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Manchester	1	0.91	62	56.36	63	57.27
Cervicopexy	8	9.88	40	49.38	48	59.26

Though only 5% of the patients selected for cervicopexy had come with secondary sterility as their chief complaint, the obstetric history of these patients revealed a very interesting fact. There were 49.38% of women with secondary sterility. Duration of 3 years was taken as a yard-stick for both types of sterility; 10% incidence of primary sterility in the cervicopexy group compares favourably with the incidence in general population.

Operative technique

Manchester operation: It is our custom to take an inverted T shaped incision on the anterior vaginal wall instead of the classical incision of Fothergill. Rest of the technique is similar to one described by John Hunter. Pouch of Douglas was opened in 31 cases. Ligation of

descending cervical branch of the uterine artery was found to be the most effective method of achieving a bloodless amputation.

Abdominal cervicopexy: This is a comparatively new operation designed by B. N. Purandare, in the year 1956, for young women with second and early third degree cervical prolapse (Shaw's classification) where child-bearing is to be preserved. The steps of the operation are described in brief.

(i) A curved transverse incision is made in the suprapubic region about 4-5 inches in length in the skin crease just above the symphysis pubis.

(ii) The anterior rectus sheath is incised transversely. The upper flap of the sheath is separated from recti muscles and from the linea alba by dissection.

(iii) The recti muscles are separated from each other in the midline; the peritoneum is incised longitudinally (Pfannenstiel incision).

(iv) The fundus of the uterus is grasped in the fingers and pulled out. The tubes are tested with saline instillation.

(v) The peritoneum of the uterovesical pouch is incised and the bladder pushed down from the front of the cervix and upper vagina (Fig. 1). The uterus is then returned to the abdominal cavity.

(vi) Starting from midline two strips are made from the lower edge of the anterior rectus sheath, about half an inch broad and cut up to the lateral border of the rectus muscle. (Fig. 2). Some operators prefer to prepare the strips from the upper edge of the incised sheath. Disadvantage of the latter method is that the sheath is under considerable tension while suturing.

(vii) The uterus is again pulled out exposing the bare cervix, the tip of each fascial strip is now caught in Bonney's round ligament forceps and taken beyond the lateral border of the rectus muscle, after which the forceps is directed towards the site of internal inguinal ring which is made prominent by traction on the round ligaments. The forceps pierces the transversalis fascia and enters the broad ligament in between its two layers and comes out in front of the bare cervix (Fig. 3).

(viii) The two strips are crossed in front of the cervix and transfixed to it on the anterior surface by three sutures of unabsorbable material (Figs. 4, 5 and 6).

A modification of this step is to take the strips backwards and fix them to the posterior aspect of the cervix. The raw area on the posterior surface is covered by approximating the uterosacral ligaments over it. This incidentally shortens the ligaments. Advantage of this technique is that uterus is kept in anteverted position, disadvantage being possible cervical dystocia due to fibrous strips surrounding the cervix completely. This method requires longer strips.

(ix) The bladder peritoneum is advanced and is stitched high on the

fundus of the uterus by interrupted sutures. The round ligaments of both sides are plicated to keep the uterus anteverted. Alternately a Baldy-Webster type of suspension can be done.

(x) If there is an enterocele it is obliterated by taking repeated purse-string sutures and the uterosacrals are approximated in the midline. If a rectocele is present, posterior colporrhaphy is done per vaginam after finishing the abdominal procedure.

In the present series Manchester operation was combined with vaginal sterilisation in 8 cases. Abdominal cervicopexy was combined with colpo-perineorrhaphy in 23 cases and operations on adnexae in 17 cases. The adnexal operations were of the nature of salpingolysis, salpingotomies, salpingectomies and wedge resection of ovaries. All the cervixes removed at operation were examined microscopically. No case of unsuspected carcinoma of cervix was found.

Post-operative complications

(1) *Mortality*: There was one death in this series due to tetanus on the sixth day after operation.

(2) *Pyrexia*: Nine patients with Manchester operation had pyrexia exceeding 100°F., while only 3 patients in the cervicopexy group had fever. The higher incidence in the first group is due to urinary sepsis. Many of the patients had difficulty in passing urine and residual urine exceeded 2 ounces.

(3) *Haemorrhage*: Three patients with Manchester repair suffered from

this complication. One of this was a mild reactionary haemorrhage not requiring blood transfusion.

Two patients had secondary haemorrhage. One patient had three bouts on 13th, 23rd and 31st post-operative days. During the last bout some abdominal operation probably of the nature of internal iliac artery ligation, was done to arrest the bleeding.

(4) *Wound gaping*: Two patients with cervicopexy had wound gaping. None of them required secondary suturing.

(5) *Cervical stenosis*, enough to prevent the passage of the uterine sound was present in two cases of Manchester series. It did not lead to haematometra.

(6) *Spigelian hernia*: This interesting complication was present in one patient of cervicopexy. There were bilateral herniae on the lateral side of recti muscles. This is due to failure to close completely the gap in

the rectus sheath created by the passage of strips and is particularly liable to occur in fat patients.

(7) *Anaesthetic complications* include two cases of paresis of lower limbs which made complete recovery.

Follow up

Table II shows that a total of 87 patients were followed up for 3-8 years. Fifty-four patients came to outdoor for examination. Information on the remaining 33 patients was obtained by letters. As nearly 37% of the patients could not be examined, more stress is laid on the functional than on structural cure.

Relief of Symptoms

There was not much difference in the two groups as far as the relief of symptoms is concerned and hence we shall not discuss it. Suffice it to say that 4 patients developed dyspareunia following Manchester repair (Table III).

TABLE III
Physiologic Results

Symptoms	MANCHESTER OPERATION			CERVICOPEXY		
	No. of patients suffering	Cured	Deve- loped after opera- tion	No. of patients suffering	Cured	Deve- loped after opera- tion
Prolapse	59	57	—	21	20	—
Leucorrhoea	11	10	—	3	3	—
Backache	10	6	3	3	2	—
Dyspareunia	9	9	4	6	5	—
Stress incontinence	6	5	—	—	—	—
Dysuria	6	5	—	1	—	—
Constipation	6	5	—	4	4	—
Flour seminis	—	—	1	—	—	—
Secondary sterility	—	—	5	4	2	—

Anatomic results following Manchester repair

Recurrence of prolapse: Table IV shows that 2 patients out of 35 had recurrence following (Fothergill) repair.

vaginal wall had shortened to 1½-2 inches and posteriorly to 2-2½ inches. The posterior vaginal fornix was remarkably shallow and one patient had flour seminis. Though it is claimed that Manchester repair cor-

TABLE IV
Anatomic Results

Symptoms	MANCHESTER OPERATION				CERVICOPEXY			
	No. suffering	No. cured	Im-proved	Recur-rence	No. suffer-ing	No. cured	Im-proved	Recur-rence
Cervical prolapse	36	34	—	2	18	17	—	1
Cystocele	28	19	7	2	11	8	2	1
Rectocele	24	10	12	2	9	3	2	—
Enterocoele	1	—	—	3	—	—	—	—

Case No. F 83: A multipara, aged 30 years, had 3rd degree cervical prolapse, cystocele, rectocele and enterocele. Manchester operation with ventral suspension was done on 10th October 1960. Prolapse recurred soon after operation. Anterior colporrhaphy and posterior colpoperineorrhaphy were done 3 months later (1st February 1961). She gave birth to a premature still-birth (weight 3 lbs. 12 ozs.) 1½ years after operation. Labour lasted for 3 days and pitocin drip was given. She had another full-term normal delivery in December 1963. Again pitocin drip was given for cervical dystocia.

At the time of follow up she had 3rd degree cervical prolapse with cystocele, rectocele and enterocele.

Case No. F 102: Recurrence occurred following a full-term vaginal delivery one year after Manchester operation. There was 3rd degree cervical prolapse with rectocele and enterocele.

Following a Manchester operation cervix was found to be very irregular and with a few exceptions was flush with the vaginal vault. It was extremely painful to locate the cervical canal and two patients had cervical stenosis. In all the cases the anterior

rects retroversion our findings do not support this claim. Neither did we find any relation between cure of the prolapse and correction of retroversion. The larger number of enteroceles at follow up may be due to a careful search for this particular lesion.

Anatomic results following Cervicopexy operation

Recurrence of prolapse: Only one patient out of 17 had a recurrence following a vaginal delivery 2 years after operation (Case No. C 23).

Following a cervicopexy operation, the cervix is pulled towards the symphysis pubis. This broadens the pouch of Douglas and gives an erroneous impression of an enterocele when the patient is made to strain. When the strips are attached low down on the cervix the fundus of the uterus falls back in the pouch of Douglas. Hence the strips should be attached at or above the level of the internal os.

The sling action of the rectus strips could be demonstrated in every case except the one with a recurrence. When the patient coughed cervix went up in each case.

The large number of rectoceles at follow up was due to the fact that in early days of this operation it was not supplemented with a colpoperineorrhaphy.

The vagina was roomy and there was not a single case of post-operative dyspareunia.

Effect of operation on fertility

Manchester operation: According to Leonard 80% of women undergoing Manchester repair become sterile; of those who conceived 50% had premature interruption of pregnancy and of those proceeding to term even a larger percentage had difficult and prolonged labours. John Hunter also shares the general belief that few patients conceive after Manchester repair. In his series of 330 cases, there were 32 women of child-bearing age who had not practised contraception. There were only 3 pregnancies in his series with one premature live-birth.

Zoefgen (1936) recommended the operation as a sterilising measure.

Table V shows that out of 62 patients followed up, there were 22 young women who had their last delivery within 3 years of operation and hence they were expected to become pregnant after operation. Of these, 17 conceived and 5 failed to conceive, thus giving an incidence of 22.7% of secondary sterility. It was decided to investigate these patients fully but as they had sufficient number of children they refused any investiga-

TABLE V
*Effect of Manchester operation
on fertility*

	No. of patients
Sterility of 3 years or more prior to operation	15
Sterilised at or before the time of operation	9
Oligomenorrhoea, anovular dysfunction bleeding	6
No sexual relations	3
Husband responsible for sterility	3
Fertility unaffected by operation	17
Secondary sterility—conceived after operation	4
Sterility probably attributable to operation	5
Total	62

tions. Only one couple was completely investigated and no obvious cause was detected. Thus in 22.7% of patients operation could be possibly blamed for sterility. Another fact to be remembered is that prolapse follows difficult, prolonged and hence infected deliveries. Thus tubal infection might have been responsible for sterility in at least some of these cases. If these women are used as their own control then incidence of secondary sterility prior to operation was 56.36% as mentioned previously. There were four patients with secondary sterility of 3 years or more who conceived shortly after operation. All of them had 3rd degree prolapse. Clearing of chronic cervicitis and increased frequency of coitus might have been responsible for these pregnancies.

Cervicopexy operation: Table VI shows the effect of cervicopexy operation on fertility. In this particular group we were in a better posi-

TABLE VI
Effect of cervicopexy operation
on fertility

	No. of patients
Diseased tubes	3
Secondary sterility of 4-10 years prior to operation	3
Fertility unaffected by operation	15
Secondary sterility-conceived after operation	4
Secondary sterility probably attributable to operation	Nil
Total	25

tion to evaluate facts because at operation tubes were examined and tested for patency. There was not a single patient in whom the sterility could be attributed to operation, while four patients with third degree cervical prolapse conceived after operation probably due to increased frequency of coitus.

Outcome of pregnancy and labour following repair of prolapse

Table VII clearly shows that following Manchester operation abortions increased three times and premature deliveries were twice as

common. Before operation there was one full-term still-birth in 238 pregnancies while after operation there were three full-term still-births in 32 pregnancies. There was one caesarean section for possible cervical dystocia. Some of these patients require special mention.

Case No. F. 100: Mrs. X, 25 year old, had two full-term normal deliveries prior to operation. She had 2nd degree cervical prolapse with cystocele and rectocele. Uterocervical length was 3 inches. Manchester operation was done on 1st November 1960; half an inch cervix was amputated. Following operation she had 3 painless midtrimester abortions. Tightening of internal os was done per abdomen on 12th March 1963. At follow up portio vaginalis of the cervix was not felt and utero-cervical length was 2 inches. Patient was admitted with 36 weeks amenorrhoea and labour pains on 1st September, 1965. Ligation around the internal os was cut, but the cervix failed to dilate. Lower segment caesarean section and sterilisation were done under spinal anaesthesia. Baby weight was 5 lbs.

This case is an example of incompetence of internal os due to high amputation of cervix. It has been rightly emphasised by Shirodkar that

TABLE VII
Outcome of Pregnancy and Labour following repair of prolapse

	F.T.N.D.		Abortion		Premature delivery		F.T.S.B.		F.T.C.S.		Pregnant at the time of follow up No.
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	
MANCHESTER REPAIR											
Before	205	86.12	24	10.08	8	3.38	1	0.42	—	—	—
After	16	50	9	28.12	3	9.38	3	9.38	1	3.12	3
ABDOMINAL CERVICOPEXY											
Before	49	83.06	6	10.17	3	5.08	1	1.69	—	—	—
After	18	72	5	20	—	—	—	—	2	8	2

amputation is not essential for a successful repair provided the cervix is not elongated.

Case No. F 104: Mrs. M., aged 26, had 3 full-term normal deliveries and one six months abortion prior to operation. She had 3rd degree cervical prolapse, cystocele and rectocele. Manchester repair was done on 13th October 1960. Following operation she had two painless abortions at 4 and 6 months. During her last pregnancy she was admitted for repeated threatened abortion and had a premature delivery in April 1964.

In a paper read at the 14th British Congress of Obstetrics and Gynaecology the high incidence of abortions and premature deliveries following Manchester Operation was statistically proved; 5% had caesarean section due to cervical dystocia. There were two deaths due to rupture of uterus and a surprisingly high incidence of accidental haemorrhage was noted. In our series there was one caesarean section in 20 full-term deliveries, giving a similar incidence of 5%. There was not a single case of rupture uterus or accidental haemorrhage.

Nineteen women who conceived after cervicopexy had in all 25 conceptions. Incidence of abnormal deliveries was not significantly increased. There were two caesarean sections. Details are given below.

Case No. C 10: Mrs. K. 25 years old, married for 7 years had a cervicopexy operation for nulliparous prolapse. She conceived 5 years after operation. At full term head was floating and there was some degree of cephalopelvic disproportion. She was taken for caesarean section after a short trial. Lower segment was difficult to approach because of adhesions and a slightly higher incision had to be made on the lower segment.

Case No. C 55: Mrs. Y. was 6th gravida and 3rd para. Caesarean section was done

for cord prolapse. Due to extensive adhesions over the lower segment a classical caesarean section with sterilisation was undertaken.

From this it is obvious that the indication for caesarean section was not previous operation, but some obstetric complication.

Conclusions

A comparative study of the cases of prolapse occurring in young women of childbearing age treated by Manchester repair and abdominal cervicopexy was made. It was found that:

(1) Majority of our patients are young, average ages being 25 and 30 years respectively in the two series, making a conservative operation necessary.

(2) Ten per cent of the women were nulliparous and 25% had prolapse following a single delivery. This emphasises the importance of congenital weakness of supporting tissues as a cause of prolapse.

(3) There was a high incidence of secondary sterility in prolapse cases (53.4%) possibly due to tubal infection and this should be taken into account when studying the effect of operation on fertility.

(4) The possibility of prolapse causing sterility through chronic cervicitis and dyspareunia is put forward.

(5) The claim that Manchester operation causes sterility has been challenged.

(6) The incidence of post-operative complications such as secondary haemorrhage, urinary infection, cervical stenosis and dyspareunia is higher after a Manchester repair than after abdominal cervicopexy.

(7) As far as anatomic and physiologic cure is concerned there is not much to choose between the two procedures.

(8) After Manchester repair there is an increased incidence of abortions, premature deliveries and still-births. There will be a need for more caesarean sections if these still-births due to cervical dystocia are to be avoided. All the still-births were home deliveries, hence the need of hospital delivery after a vaginal repair. All these are complications of cervical amputation and hence this should not be done unless cervix is elongated considerably.

(9) Both the caesarean sections after cervicopexy were for indications other than previous repair. Nevertheless there was difficulty during operation. This can be avoided by attention to certain details of the technique.

(a) Proper peritonisation of the raw area in front of the cervix at the time of cervicopexy.

(b) During caesarean section particular attention should be given to bladder which has been advanced; otherwise it is liable to injury.

(c) The lower segment incision should be above the level of the strips so that the repair is not disturbed.

(10) Following Manchester repair 16 patients had full-term vaginal deliveries, 3 patients having 2 deliveries each with recurrence of prolapse, giving an incidence of 12.5%. Following abdominal cervicopexy 15 patients had full-term vaginal deliveries, 3 having two deliveries each with one recurrence, giving a percentage of 6.6. Thus it is apparent that routine caesarean sec-

tion after repair for prolapse is not justified.

Summary

A comparative study of 191 cases of prolapse occurring in young women and treated by Manchester repair and abdominal cervicopexy is presented.

Technical details of abdominal cervicopexy are described.

Abdominal cervicopexy was found to be a good operation for 2nd and early third degree cervical prolapse (Shaw's classification) with a small cystocele. Presence of rectocele and enterocele required additional operative procedures.

Abdominal cervicopexy did not interfere with fertility and pregnancy. During labour it did not increase the incidence of operative delivery. The incidence of recurrence of prolapse after full-term vaginal delivery was only 6.6%.

This operation is not suitable for procedentia, stress incontinence and a large cystocele.

It is an operation of choice for nulliparous prolapse.

Acknowledgement

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References

1. Fothergill, W. E.: J. Obst. & Gynec. Brit. Emp. 24: 19, 1913.
2. Hunter, John: Progress in Gynaecology, Vol. III by Meigs.
3. Shirodkar, V. N.: Contributions to Gynaecology.

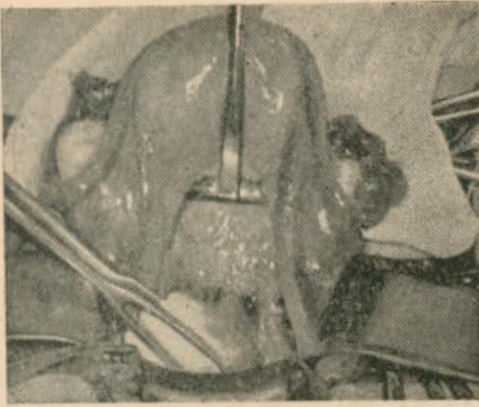


Fig. 1

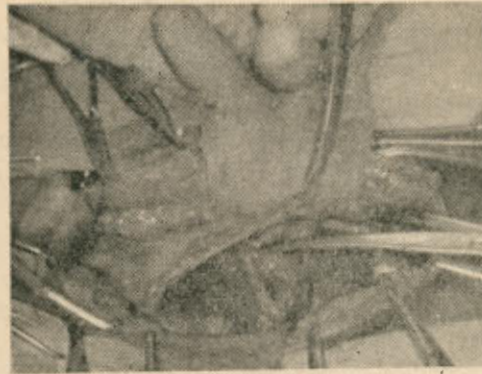


Fig. 2

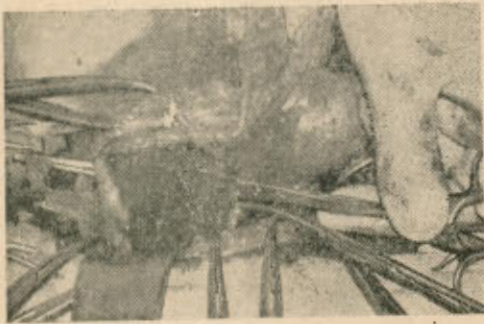


Fig. 3

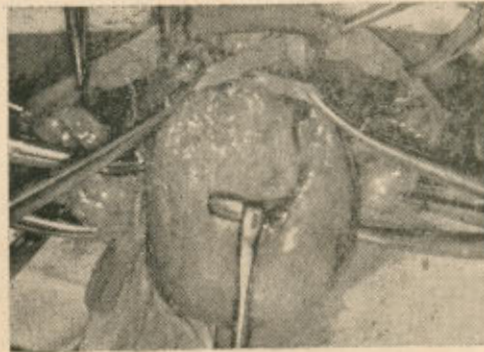


Fig. 4

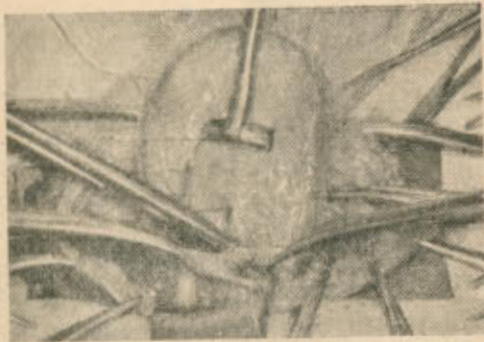


Fig. 5

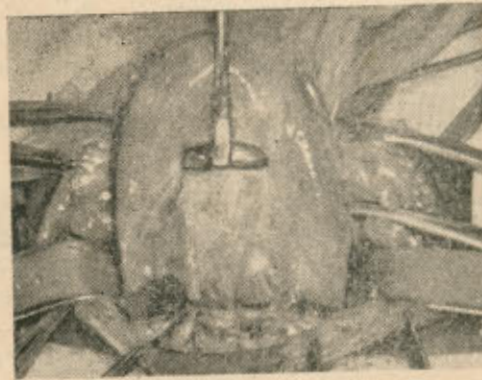


Fig. 6