

SHAUTA'S RADICAL VAGINAL HYSTERECTOMY

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The quest for ideal therapy for carcinoma of the cervix uteri is still in progress and although newer aspects of chemotherapy are being explored, radiation and surgery are the mainstays of therapy to-day.

Establishment of a modern first-class radiotherapeutic centre involves lot of funds and is not yet possible in a developing country like India, while surgical technique can be perfected by a surgeon through practice.

Vaginal hysterectomy for carcinoma cervix was first done by Czerny in 1878 and later by Schuchardt in 1893, but it was popularised by Shauta (1901), Stockel and Adler (1932). Vaginal route never became as popular as the abdominal and was almost thrown into oblivion with the

ponents of this operation like Navratil, Bastiaanse, Amreich and Purandare. Present study was undertaken to find out the scope of this operation in the modern era of treatment of cancer cervix.

Material and Methods

Forty-four cases of carcinoma of the cervix and vagina were treated by Shauta's radical vaginal hysterectomy and hysterocolpectomy, during the period 1st June 1958 to 31st December 1964, in the gynaecological department of K. E. M. Hospital, but complete records were available in only 29 cases. A total of 153 patients suffering from carcinoma of the cervix and vagina were treated surgically in this hospital. Table I

TABLE I
Surgical treatment of cancer cervix and vagina

Werthiem	Shauta	Exenteration	Total
82 (53.61%)	44 (28.75%)	27 (17.64%)	153

advent of radiotherapy. To-day there are very few staunch pro-

ponents of the different surgical methods that were employed.

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Age

Table II shows the distribution of patients in different age groups.

The youngest patient was 25 years old and the oldest 70 years; 50 per cent of the patients were less than 40 years of age and only 8 were post-

TABLE II
Age incidence

21-30 yrs.	31-40 yrs.	41-50 yrs.	51-60 yrs.	61-70 yrs.	Total
5	10	6	5	3	29

menopausal. Average age was 40.9 years. This confirms the observation that carcinoma cervix occurs about 10 years earlier in this country than in the Western countries. This also stresses the importance of complete gynaecological examination of all patients complaining of irregular bleeding per vaginam irrespective of age.

Parity

All patients had borne children. Two patients had one delivery each, while the rest were multiparous.

Religion

Twenty-six patients were Hindus and 3 Muslims. This proportion is almost the same as the proportion of Hindu to Muslim patients in the hospital Outpatients' Department. Muslims did not appear to be immune to this disease though circumcision is widely practised by this community. Wynders has explained that many men who say that they have been circumcised still possess a foreskin and often the wife's statement on this subject is not to be relied upon. In his survey of the cases of carcinoma of the cervix Subodh Mitra also found that the incidence was practically the same among Hindus and Mohamedans.

Type of Growth

There were 3 cases of adeno-carci-

noma among the 24 cases with cervical carcinoma (12.5%). The incidence of adenocarcinoma given by Way and Kottmeier is 5 per cent.

Stage of the Disease

TABLE III
Stage of the disease

Carcinoma of vagina	Stage of Carcinoma of cervix			
	I	IIa	IIb	Recurrent
5	11	5	7	1

Table III shows distribution of cases according to League of Nations classification. One patient had recurrence of malignancy two years after complete radiotherapy for carcinoma of the cervix. The stage of the disease at the time of initial therapy was not known, but the recurrence was limited to the cervix. She was treated with Shauta's operation. Another patient had associated third degree cervical prolapse.

All the cases were diagnosed or suspected on clinical examination and confirmed by multiple punch biopsies of the cervix.

Preoperative investigations

Preoperative investigations included haemoglobin estimation, urine examination, biopsy of the cervix, cystoscopy, blood urea nitrogen etc. Average haemoglobin level was

9.2 gm%, lowest was 4.2 gms%.

Preoperative blood transfusion was given to 8 patients with an average of 740 ccs; 22 patients required an average of 900 ccs. of blood during the operation.

Preoperative intra-cavity radium was given to 9 patients; 3600 mgm. hours were given through a disc and stem applicator, 60 mgm. in the stem (cavity) and 60 mgm. in the disc (cervix). Radium was kept in for 30 hours. This was followed by Shauta's hysterectomy 3 weeks later. Two patients underwent additional extraperitoneal lymphadenectomy.

Five cases of carcinoma of the vagina were treated by Shauta's hysterectomy and total colpectomy.

Post-operative complications

There was no primary mortality in this series.

(a) pyrexia: 11 patients had temperature above 100°F for more than one day. Most of these had urinary retention also.

(b) bladder atony: 16 patients had residual urine, more than 2 ounces, after the tenth post-operative day. In two patients *B. proteus* was found to be the infecting organism. *Bacillus Coli* was isolated from urine in one case.

(c) paralytic ileus was noted in one patient.

(d) gaping of wound: In one case Schuchardt's incision required secondary suturing.

(e) bladder injury: bladder was injured only once. It was sutured immediately and self-retaining catheter was kept in for two weeks. Healing was good. There was no ureteral injury.

Follow up

Out of 29 cases, 17 were followed up for 1-5 years. Table IV shows the follow-up. Four patients died of disease within one year. Two patients are alive and well 5 years after operation. Rest were followed up for less than 5 years; hence the 5-years survival rate is not calculated. Case No. 13 had leakage of urine in the ward which stopped after 12 days. She is complaining of leakage again and as the patient could not be examined it is difficult to say whether it is a fistula due to ischaemic necrosis or due to recurrence of malignancy. This patient was treated with 6000 mgm. hours of radium, Shauta's hysterectomy and extraperitoneal lymphadenectomy. The section of the lymph nodes showed metastases of adenocarcinoma.

Out of the 13 patients who are alive, four complained of minor urinary disturbances such as burning, frequency, hesitancy and precipitancy. Case 12 had severe stress incontinence, for which Aldridge-Sling operation was done after one year.

Discussion

We have given a brief account of 29 cases of cervical and vaginal carcinoma treated by Shauta's hysterectomy with or without preoperative radium and lymphadenectomy.

The advantages of Shauta's operation are:

(i) Decreased morbidity: This operation is shorter than Werthiem's. There is less blood loss. Convalescence is smoother and there is no danger of an incisional hernia. It can be undertaken in older, obese and poor risk patients. In Mitra's series

TABLE IV
Follow up

Sr. No.	Stage of disease	Treatment	Survival in yrs.	Remarks
1.	I (Adeno-carcinoma)	Shauta	5	Hesitancy of micturition.
2.	I	Shauta	5	—
3.	IIa	Shauta	4½	C/o contact bleeding
4.	IIb	Shauta + radium + lymphadenectomy	4	—
5.	I	Shauta	4	Burning micturition
6.	I	Shauta	4	? Recurrence
7.	Carcinoma vagina	Shauta + colpectomy	4	—
8.	Ca. vagina	Shauta + colpectomy	4	—
9.	IIa (with pro-lapse)	Shauta	3	Precipitancy of micturition
10.	I	Shauta	3	—
11.	Ca. vagina	Shauta + colpectomy	2	—
12.	I	Shauta	1	Stress incontinence operated
13.	IIb (Adeno-carcinoma)	Shauta + radium + lymphadenectomy	3	Urinary fistula lymph-node metastases
14.	IIb	Shauta + radium	Died after 6 months	Ovarian metastases
15.	IIb	Shauta + radium	Died after 6 months	Extension to endometrium and myometrium
16.	IIa	Shauta + radium	Died after 3 months	Post-operative pelvic peritonitis
17.	IIa	Shauta + radium	Died after 1 year	Died of the disease.

of 209 Shauta's hysterectomies the average haemoglobin was 7 gm%. Oldest patient of Bastiaanse was 82 years. Brunschwigg also admits that this operation has a definite place in poor risk patients.

(ii) Cure rates are comparable to the abdominal operation, stage for stage.

(iii) A good vaginal cuff can be removed so that local recurrences in vagina are uncommon.

(iv) Large amount of parametrial and paravaginal tissues can be removed. Parson, Caesare and Friedel

commented that the problem of successful management rests on adequacy with which the local spread of the disease is treated.

(v) Primary mortality of the operation is falling, Table V.

(vi) Incidence of urinary fistula is low (Table VI) as compared to Werthiem's operation.

Main drawback of this operation is inability to remove the lymph nodes and the fatty tissue in obturator fossa and around the internal and external iliac vessels. But experienced operators like Purandare remove obturator

TABLE V
Primary mortality

Year	Author	Mortality %
1901 - 1906	Shauta	11.40%
1916 - 1920	Shauta	3.50%
1932 - 1950	Mitra	2.80%
		(Nil in last 105 cases)
1942 - 1954	Bastinaanse	0.27%
		(Nil since 1947)
1944 - 1957	Purandare	—Nil—
1958 - 1964	Present series	—Nil—

TABLE VI
Incidence of urinary fistulae

Author	Nature of Operation	Incidence %
Parson	Werthiem	15.0%
Meigs	Werthiem	7.0%
Bastiaanse	Shauta	1.5%
		(Only one ureteric injury)
Mitra	Shauta	2.9%
Navratil	Shauta	2.9%
Present Series	Shauta	—nil—

and internal iliac nodes per vaginam, though it is impossible to remove external iliac nodes by this route.

In this respect we have to study two aspects of lymph node involvement: (i) the incidence of lymph node involvement in different stages of the disease; (iii) improvement in five years survival rate when positive lymph nodes are removed.

Incidence of lymph node involvement as given by different workers varies greatly. Thus according to Read 20-25% of stage I and 30-35% of stage II cases show node involvement. According to Parsons *et al* lymph node involvement in stage I is negligible, in stage IIa it is 5% and that in stage IIB is 43%. If Parson's figures are accepted then Shauta's hysterectomy appears to be ideally suited for stage I and stage IIa cervical cancer.

(2) Second problem is about the adequacy of lymph node removal and its effect on five-year survival.

Surgical removal of lymph nodes is not always easy. It has been pointed out by Brunschwig and Daniel that many so-called complete lymphadenectomies are quite inadequate operations and that many surgeons fearful of uncontrollable bleeding from small venous tributaries that retract behind the sciatic nerve roots fail to remove the hypogastric nodes in the vicinity of the hypogastric vein. Since these nodes are involved in 31% of cases with lymph node metastases, no lymphadenectomy can be called complete unless they are removed together with the obturator, parametrial and external iliac nodes.

It was found that survival rate was 3 times higher when nodes were not involved. Walther feels that when

the regional nodes are involved the cancer also invades the blood stream. Bastiaanse found 20 per cent lymph node involvement in stage I. He also pointed out that lymphadenectomy will cure only 20 per cent of those with node metastases i.e. 4% in stage I, while in stage II lymphadenectomy will help only 10 per cent of those with positive nodes. Meigs said that a complete lymphadenectomy always makes great demand on the surgeon. Therefore, there is a considerable chance that the primary mortality resulting from the lymphadenectomy will be higher than the increase in 5 years cures when the surgeon is less experienced.

Extraperitoneal lymphadenectomy

This operation may be combined with Shauta's operation for stage II cancer cases.

Since 1948, Purandare started combining the two procedures. He performs extraperitoneal lymphadenectomy through bilateral inguinal incisions. At the same time he ligates the uterine and the ovarian vessels. This is followed immediately by a Shauta's operation.

During the same year Mitra started doing two stage operation for cancer cervix, the first stage being radical vaginal hysterectomy and the second extraperitoneal lymphadenectomy three weeks later. He found the incidence of lymph node involvement even after extensive irradiation of the pelvis by supervoltage therapy to be 31.2% in stage I. According to Nathanson stage II is ideal for lymphadenectomy.

Up till now pelvic lymphadenectomy has not much improved the cure

rates. Its main value lies in determining the prognosis.

Role of pre-operative radium

Pre-operative radium according to Navratil increases the chance of fistulae and difficulties in the dissection of tissue planes. Our experience does not confirm this statement. There was no difficulty in the dissection, neither was the fistula rate increased, when 3600 to 6000 mgm. hours were given pre-operatively. It gave the surgeon time to build up the patient by stopping the bleeding and checking the local spread. Infection was also eradicated. The incidence of vaginal vault metastases is decreased by pre-operative radium and there is less chance of cancer spreading through lymphatics and blood vessels during manipulation.

Purandare started using pre-operative radium in 1947. Purandare and Bastiaanse strongly advocate pre-operative radium as a means of reducing the primary mortality. Bastiaanse had 2 per cent primary mortality during the period 1939 to 1954. Since 1947 he did not have a single mortality. Purandare did not have a single mortality since 1944. According to Bastiaanse pre-operative radium increases the difficulty in Werthiem's operation due to fibrosis but not in Shauta's. Radium does not kill all the cancer cells and hysterectomy removes the danger of local recurrence in the cervix.

Summary

A study of 29 cases treated by Shauta's radical vaginal hysterectomy and hysterocolpectomy for carcinoma cervix and carcinoma vagina

was made; 17 patients were followed up for 1-5 years and the results were found encouraging.

Conclusion

It will be proper to conclude this article with the remarks of Milton Mc Call.

"In the realm of medicine as in the other phases of human endeavour a method or custom once highly regarded falls into disuse only to be lifted from its temporary oblivion at some later date. This technique of radical vaginal surgery richly deserves to be reinvestigated further with point in view of delineating once and for all the place it should occupy in our armamentarium against cancer cervix."

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