# CANCER VULVA

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Subodh Mitra Memorial Oration**

It is a signal honour Mr. President, to have been invited to deliver the Fourth Mitra Memorial Oration. I am very conscious of this and the importance of the occasion. My only fear is my inadequacy to do it justice. May I at this stage thank you Mr. President and the Members of the Executive Committee of the Bengal Obstetrics and Gynaecological Society for the honour you have done me.

I had the privilege of knowing Dr. Subodh Mitra since the beginning of my career and worked with him till his last days. To-day I will not elaborate on my experience with him; yet it is rewarding to stop from time to time and reflect on the works of great masters of the past and it is fitting at the same time that we should pay homage to those who so well served their days and generation.

The subject which I wish to discuss this evening is "Some Aspects of Vulval Cancer".

Carcinoma of vulva is one of the most frequently overlooked malignant condition, whose management until recently had been very poor. Theoretically there seems no reason why this should be so, as the vulva is accessible both for early diagnosis and for radical excision. The presene of lymph nodes in the groin and the pelvis are also quite easily approached.

*Delay*

From the location of the lesion one would easily think that it would attract early attention of the patient and also her medical attendant. But surprisingly enough it is not the fact. Possibly this delay is partly due to natural reluctance and shyness on the part of the older patients or it may be due to lack of consciousness regarding genital organs at this advanced age when the disease is common. Another factor responsible for the delay is due to the failure of realisation of the implication of some such symptoms like itching or burning, which as we shall see later, are very early complaints. Family physicians very frequently treat these cases symptomatically without examining the patients. Often menopausal age is blamed and placebos are prescribed losing valuable time. This is of course inexcusable to-day because consultant opinion is easily available both to the family physician or to the patients in institutions free of charge or with minimal charge. There is also institutional delay due to lack of beds. These patients who come mostly from poorer classes as our statistics show, about 87 per cent, are ill-nourished and anaemic and require some time before they can be made safe

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for surgery. This time lag often makes an operable patient inoperable and if the growth increases rapidly, the outlook for cure is bad.

Hahn reports in 18.31 per cent of cases the physician was to be blamed for the delay and that a combined physician and institution delay was 52.6 per cent. The average period of physician delay was 1.2 years. He also analysed the patients' delay which was 66.4 per cent with an average period of 2.35 years. In the present analysis of 134 cases from 1950 to 1969, only 94 were available for analysis.

TABLE I

*Delay Before Reporting—94 Cases*

| Duration | Lunin | Collins et al | | Ghosh | |
|---|---|---|---|---|---|
| Less than 6 months | 16 | 16 | 57% | 28 | 53.2% |
| 7 to 12 Months | 8 | 5 | | 22 | |
| 1 to 2 Years | 7 | 5 | | 12 | |
| 2 to 5 Years | 10 | 2 | | 10 | |
| Above 5 Years | 6 | 9 | | 6 | |
| Indefinite | 3 | 0 | | 16 | |

Table I shows the delay found by different authors. It will be seen that in the series presented here only 28 patients came within six months and only 50 presented themselves within one year. The same time factor more or less is found in the series of Lunin and Collin *et al.*

*Age Incidence*

Cancer vulva is a disease of old age, though occasionally it is seen at a much younger age. In the present series the youngest patient was 23 years old and the oldest 80 years of age.

46.8 per cent of the patients were above the age of 60 years and about 76.6 per cent of the cases were above 50 years, (Table II).

In spite of advanced age these patients often tolerate major surgery well. This is mainly due to the advances made in the field of anaesthesia, the discovery of antibiotics, availability of blood for transfusion and better understanding of geriatrics.

TABLE II

*Distribution According to Age*

| Age | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80 & Above |
|---|---|---|---|---|---|---|
| No. of Cases | 5 | 17 | 28 | 34 | 8 | 2 |

*Incidence According to Parity*

Green *et al* has mentioned that cancer vulva seems to occur somewhat more frequently in nulliparous and single women and stated that 38 per cent of their patients were nulliparous. Corscaden states that parity and marital history are not contributory. In the present series, only 23 per cent of the cases were found in nulliparous women. From this it is difficult to say whether parity has any influence over the incidence of cancer vulva unless the total number of nulliparous women and parous women in the population is available for analysis. In view of the lesser number of nulliparous women in our population it seems that nulliparous women are more prone to have the disease (Table III).

TABLE III

*Distribution According to Parity*

| Parity | Number | Per cent |
|---|---|---|
| Nulliparous | 18 | 23.0 |
| Para 1 | 9 | 11.6 |
| Para 2 | 8 | 10.3 |
| Para 3 | 6 | 7.7 |
| Para 4 | 5 | 6.4 |
| Para 5 | 7 | 9.0 |
| Para 6 | 4 | 5.6 |
| Para 7 | 3 | 3.9 |
| Para 8 and Above | 18 | 23.0 |
| Total | 78 | 100.0 |

*Site*

Way has emphasised that cancer vulva occurs more frequently in the anterior half of vulva than the posterior half. Moreover, external epidermal surfaces of vulva are much more frequently affected than the internal mucous surface of vestibule. I also have found that the lesion more often arises on the anterior half of vulva and are mostly on the labia. The growths were more or less equally distributed on both sides. (Table IV & V).

TABLE IV

*Anatomic Sites of Origin—67 Cases*

| Site | No. of Cases |
|---|---|
| Labia | 50 (74.6%) |
| Clitoris | 5 ( 7.5%) |
| Vestibule | 2 |
| Perineum | 2 |
| Mons | 1 |
| Unclassified | 7 |

TABLE V

*Distribution According to Vulval Site*

| Site | Number | Percent |
|---|---|---|
| Anterior Half | 52 | 77.6 |
| Posterior Half | 9 | 13.4 |
| Combined | 6 | 9.0 |

*Histology*

Histologic diagnosis was squamous celled carcinoma in all of my cases. In one of the cases. reported elsewhere, three years after radical vulvectomy a growth developed at the external urethral meatus. On biopsy it was found to be a case of malignant melanoma. Anterior exenteration was done and she survived for over three years. She was a multigravida aged 60 years. (Fig. 1, 2 & 3).

*Syphilis*

Serological examination for syphilis gave positive reaction in only three of the cases.

*Family History*

Family history was found to have no importance in my series of cases.

*Diabetes*

None of my treated cases had diabetes. But the association of diabetes with cancer vulva should be considered. Diabetic vulvitis in elderly women is often seen, and quite a few of them also develop leucoplakia on top of diabetic vulvitis and the association of leucoplakia with cancer vulva cannot be ignored, as we shall see presently. Macafee found 5.8 per cent of his cancer of the vulva cases had diabetes. He maintains that the question as to whether diabetic vulvitis might predispose to the development of cancer of the vulva must be considered. Green *et al* found that 76 per cent of their diabetic patients had proved vulval leucoplakia. They suggest, "the aetiological significance, if any, of the diabetic state relative to the development of both leucoplakia and carcinoma of the vulva is most likely based on a more fundamental metabolic or hormonal mechanism". I think this is a good problem for some one to take up for research work.

*Association with Leucoplakia*

Two of my cases had multicentric cancer on leucoplakic lesions of vulva. The presence of leucoplakia in a large number of these cases was significant.

The association of leucoplakia and cancer vulva is well known (Fig. 4). But the place of leucoplakia in the aetiology of vulval cancer has aroused great discussion and wide differences of opinion are held by different workers. Green *et al* state that "the most significant aetiological factor of all is the presence of leucoplakia of the vulva in the vast majority of these patients". Wallace and Whimster

consider leucoplakia of the vulva a premalignant disorder and mention "vulvectomy as the treatment of choice in these cases" owing to the risk of malignancy. Jeffcoate has discussed the condition at length and ultimately mentions that there is no evidence to show that cancer ever developed in a woman under observation for leucoplakia. Way stated "I personally believe that what we call leucoplakia is not in itself very dangerous, but it is these hyperkeratatic areas which arise in leucoplakia that are the starting points of vulval cancer". Macaffee recognises leucoplakia as a clinically chronic skin lesion which is a premalignant condition. The view of Wallace is that leucoplakia is a precancerous change occurring in mucous membrane and which on the vulva is limited to the labia minora, clitoris and inner aspects of labia majora".

In a personal communication, Prof. Dutta Choudhuri of the Department of Pathology the Chittaranjan Cancer Hospital informs me that he is inclined to believe that leucoplakia vulva is a clinical entity which may ultimately develop into cancer just as in cases of oral leucoplakia.

I feel, the association of leucoplakia and cancer vulva is so marked that it cannot be called only a coincidence. Besides the hyperkeratosis, changes in shape of rete pegs, superficial keratinization, the deeper layers occasionally show dysplasia. In some patients it may be possible that frank cancer or cancer in situ may develop from this transitional dysplasic change. So I advise simple vulvectomy for proved leucoplakia specially when fissures develop.

Leucoplakia was present in 45.4 per cent of my cases. Green *et al* stated that 58 per cent of their cases had proved leucoplakia. Taussig reported 70 per cent of his cases were associated with leucoplakia. Smith and Pollock found 43.3 per cent of the squamous cell carcinoma with leucoplakia. Lunin found it in 18 per cent in Negro women and Palmer reported in 12 per cent of his cases. Miller *et al* reported 23 per cent of leucoplakia in squamous cell carcinoma, (Table VI)

TABLE VI

*Leucoplakia with Cancer Vulva*

| Authors | Percent |
|---|---|
| Green et al (1958) | 58 |
| Taussing (1940) | 70 |
| Smith & Pollock (1947) | 18 |
| Palmer | 12 |
| Miller et al (1947) | 23 |
| Ghosh (1970) | 45.4 |

*Incidence of Cancer Vulva*

Way mentions that cancer vulva comes fourth in frequency of the malignant lesions of the female genital organs. Novak places carcinoma of the vulva third in incidence among genital cancers in the female being exceeded by uterine and ovarian cancers. In the Chittaranjan Cancer Hospital, the incidence of cancer vulva is fourth in frequency to all other female genital cancers. Table VII shows

TABLE VII

*Per cent of Vulval Cancer in Relation to Cancer in other Parts of Body in Females*

| 1950-1969 | Number | Per cent |
|---|---|---|
| Malignant Lesion in Females | 16071 | 0.83 |
| Genital Cancer | 9679 | 1.38 |
| Cancer Cervix | 8974 | 1.49 |
| Cancer Ovary | 301 | 44.51 |
| Vulval Cancer | 134 | — |

the incidence of malignant lesions in the female compared with the incidence of vulval cancer. It will be seen that the incidence of cancer vulva is 0.83 per cent of total cancer in the female, 1.38 per cent of genital cancer, 1.49 per cent of cervical cancer and 44.51 per cent of ovarian cancer. (Table VIII)

TABLE VIII

*Symptoms in 70 Cases*

| Symptoms | No. of Cases |
|---|---|
| Pruritus | 42 |
| Pain | 24 |
| Lump | 21 |
| Ulcer | 20 |
| Discharge | 14 |
| Bleeding | 12 |
| Dysuria | 5 |
| Dyspareunia | 5 |
| Inguinal Swelling | 2 |

Itching of vulva was the most frequent complaint. Ulceration and a lump with or without pain was the next frequent complaint.

Among the symptoms vulval pruritus was predominantly the first symptom complained of. Next was the lump of the vulva. It is interesting to note that three of the cases started with dysuria, which was possibly due to growth developing unnoticed by the patient. Dyspareumia as an initial symptom was complained of twice in two young patients, one with occasional blood discharge after coitus. Table IX.

TABLE IX

*First Symptom*

| First Symptom | Number |
|---|---|
| Pruritus | 23 |
| Lump | 19 |
| Ulcer | 12 |
| Bleeding | 4 |
| Dysuria | 4 |
| Discharge | 4 |
| Pain | 2 |
| Dyspareunia | 2 |
| Total | 70 |

*Associated Malignant Disease*

Opinions are divided regarding the predisposition of an individual to malignant disease. In many reported cases the lesions were so close to the primary growth and found in the same line may be taken as growth of multicentric origin provided they are of similar histological type. Warren and Ehrenreich, found that incidence of second primary tumour to be eleven times the normal in 2,829 autopsies. Macafee has mentioned of 4 cases in his 86 patients who had new primary lesions. Green and others give surprisingly higher incidence of multiple primary lesion, 13.4 per cent of their patients had primary cancer developed at different sites either before or subsequent to the development of the vulval carcinoma. Taussig found 6.4 per cent of his cases having vulval cancer and a primary growth elsewhere.

In the present series three patients were having two primary lesions, one of which has just been mentioned. The cancer vulva for which she was operated upon, after three years she developed a melanoma at the urinary meatus while still under follow up. She was treated by surgery. Anterior exenteration was done and was well for three years. The second case was a breast cancer operated upon. She developed cancer vulva four years later and radical vulvectomy done. The third one had colon cancer twelve years before the cancer vulva developed. She was operated upon for colon cancer, but vulval cancer was too advanced for any surgical treatment and was treated by chemotherapy. She died within six months. My colleague Dr. Miss Ghosh informs me of ten cases having cancer vulva after treatment of cancer cervix. One of them was ten years after the primary was detected and treated. Therefore, this association proves the importance of a thorough search for any second primary during the follow up and also a proper previous history.

*The Growth*

It had been stated that the stage of can-

cer vulva be determined by the size of the growth and consequently the prognosis. I have not found the same to be reliable. I feel that an exophytic growth even though big has a more favourable outlook than a small flat or ulcerative growth. The growth arising from the clitoris is not so favourable as that arising from the labia. (Fig. 5 & 6).

*Treatment*

The treatment of cancer vulva until lately had been unsatisfactory and the results were equally disappointing. These lesions were treated variously by vulvectomy, electric coagulation, radiation by deep X'rays and implantation of radium.

Prior to 1950 twenty cases attended Chittaranjan Seva Sadan of which only ten had received treatment. The rest were discharged as too advanced. Of the ten, simple vulvectomy was done in five. Three had vulvectomy with removal of superficial glands of the inguinal region. Two had radiation treatment only and four had post operative radiation. Only two cases were reported to be living upto two and half years and one was living upto over four years with local recurrence. The fate of the other cases is not known. Our follow up department was not started then and I could not follow them up. However, from the results of the few that could be checked, I must admit that the treatment were unrewarding in our hands. Thanks to the works of Taussing and later by Way, who were the pioneers in the field of surgical treatment of cancer vulva, the treatment of vulval cancer has become essentially radical surgery, which means removal of the vulva with a wide margin of skin around it and the superficial and deep inguinal glands with deep pelvic glands. In their hands the results had been satisfactory.

My technic of surgical operation is essentially of the type done by Way with certain modification. These modifications are based on:—

(a) The spread of cancer vulva is in most cases slow. Distal metastases are uncommon.

(b) The works of Parry Jones and Jackson about the anatomic distribution of the lymphatics and the lymph nodes draining the vulva. Jackson has also shown that in all cases of cancer vulva, the lower easily accessible iliac glands are affected before the deeper ones.

(c) The importance of superficial fascial planes of the lower abdomen. There are two definite layers divided by what the Austrian authors (as quoted by Eamon de Valera) call the intralamella. The lymph glands and the principal blood vessels lie deep to the intralamella which thus gives a guide to the amount of tissue which may safely be allowed to remain on the skin flap. This precludes skin sloughing.

*Technic* (Fig. 7, 8 & 9)

The skin incision is taken from the level of anterior superior iliac spine about ½" internal to it, and parallel to the inguinal ligament upto the junction of middle and medial third of the inguinal ligament and then drawn vertically downwards over the femoral triangle for about two inches. The skin flaps are dissected away with a thin layer of superficial fatty fascia. The whole thickness of the remaining fascia upto the aponeurosis with the lymphatics is dissected away upto the level of the inguinal ligament. Similarly all the fatty tissue is dissected away from the upper part of the femoral triangle. The great saphenous vein is dealt with according to the needs. The vessels are ligated when necessary. After removing the whole mass en-block, the deep fascia of the thigh

is incised. Femoral sheath is opened and deep glands including the Cloquet gland are removed. The dissection is carried out upwards along the anterior surface of femoral artery. The inguinal ligament is cut a little external to its attachment at the pubic tubercle and lifted upwards along the external iliac artery. The peritoneum is pushed medially and deep pelvic glands are removed. The wound is closed, with a surface drain. Care is taken to suture the inguinal ligament in such a way that the femoral canal is closed and chances of hernia avoided.

Vulvectomy is done at the same sitting. Whole of mons veneris is removed because of the lymphatics. Sufficient skin around the vulva is removed in conformity with the lymphatic drainage. Removal of very wide area is, it seems to me not necessary.

sometimes by bandaging the legs. In 6 weeks the lymph vessels regenerate (Jackson) and oedema passes off.

*Results*

The total number of patients seen from 1950 is 134. Of this 68 did not take treatment. Only 66 patients took treatment, 57 by radical surgery, 5 by radiation, 3 by limited surgery and radiation, one was treated by chemotherapy. (Table X).

Of these, 44 cases done upto 1965 can be taken up, to show five year end result.

Out of these 44 cases radical surgery was done in 37 cases, 5 had radiation treatment and 2 had surgery plus radiation. 59 per cent of the cases lived for 5 years or over. (Table XI).

Table XII shows the break up of the three types of treatment and it will be

TABLE X

*Type of Treatment*

| Total | Tr. Not Taken | Treated | Radical Surgery | Radiation | Surg. & Radiation | Chemotherapy |
|---|---|---|---|---|---|---|
| 134 | 68 | 66 | 57 | 5 | 3 | 1 |

TABLE XI

*Five Year Survival upto* 1965

| Total | Surg. | Rad. | Surg. & Rad. | Survival |
|---|---|---|---|---|
| 44 | 37 | 5 | 2 | 59% |

*Complications*

(a) Failure of primary healing. This can be avoided to a great extent by ensuring blood supply to the flaps, avoidance of tension, prevention of infection and proper drainage.

(b) Hernia can be prevented as stated above.

(c) Lymphoedema—This can be avoided by keeping the limbs elevated and

TABLE XII

5-*Year Survival By Different Treatment**

| Treatment | Total | Living | Percentage |
|---|---|---|---|
| Radical Surg. | 37 | 26 | 70.2 |
| Radiation | 5 | 0 | — |
| Surg. & Rad. | 2 | 0 | — |

Two in the series died of heart failure. One of these was treated by radical surgery and one by radiation.

seen that 70.2 per cent of the cases with radical surgery lived for 5 years. There were no survival with radiation or combined radiation and surgical treatment.

*Operability Rate*

One hundred and thirty-four patients were seen, of which 27 refused treatment, 40 were insuitable for radical treatment and only 58 had radical surgery that is 54 per cent. If the patients had not refused treatment, the corrected operability rate would be 79 per cent. (Table XIII).

TABLE XIII

*Operability Rate*

| | |
|---|---|
| Total Patients Seen | 134 |
| Refused Treatment | 27 |
| Unsuitable for Treatment | 40 |
| Operated on | 58 (54%) |
| Corrected Operability | 79% |

Results in gland positive and gland negative vary widely. Gland positive cases have a bleak outlook in comparison with the gland negative cases. Table XIV shows 37.5 per cent 5 year survival rate in gland positive cases and 79.3 per cent in gland negative cases. (Table XIV).

TABLE XIV

*Results According to Nodes*

| Nodes | Cases | Survival |
|---|---|---|
| Positive | 8 | 3 (37.5%) |
| Negative | 29 | 23 (79.3%) |

Lastly, I like to mention that with the use of chemotherapy a few advanced inoperable cases have been operated upon though the results were not quite satisfactory.

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*See Figs. on Art Paper I-II-III*