

CANCER CERVIX IN ASSAM

(An aetiological analysis of 250 cases)

by

RAMA KANTA DAS,* D.G.O., M.O.

According to Corscaden (1962), cancer cervix is the -second major killer of women in America, breast cancer being the first. It constitutes 11% of all cancers in women and 55 to 65% of cancers of the reproductive system. In Britain it is remarkably less. Boyd and Doll (1964) found carcinoma of cervix to be responsible for only 5% of all deaths due to cancer in women. In India, no doubt cancer cervix is one of the major killers in women, but no definite figure is available for the country as a whole. According to Mitra, two lacs die of cancer every year, which means 8 lacs suffer from cancer at any one time in the country (Dass and Mukherjea, 1961).

Many epidemiological studies have since been published on cancer cervix in the past from different parts of the country. No such study has been made in Assam. An attempt has been made in this paper to analyse the prevalence and aetiological relationship of cancer cervix in this State.

Prevalence of cancer cervix in Assam

This survey consists of 250 cases

*Assist. Prof., Dept. of Obst. & Gynec., Assam Medical College & Hospital, Dibrugarh.

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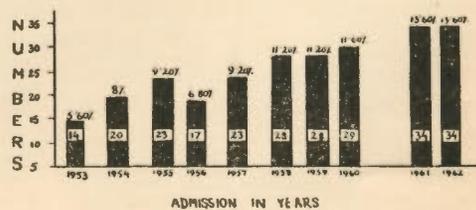
of carcinoma cervix admitted for treatment in the department of Obstetrics & Gynaecology, Assam Medical College and Hospital, Dibrugarh, during a ten-year period from 1953.

The Assam Medical College and Hospital, located at Dibrugarh, was the only specialised hospital catering to the whole State during this study period and was the only centre having facilities for treatment of cancer cases. The experience reported in this study could be considered as the experience of the whole State in general.

There has been a gradual rise in the general population of the State at the rate of an average of one million in each ten-year period. The total population at the end of this study period was twelve million.

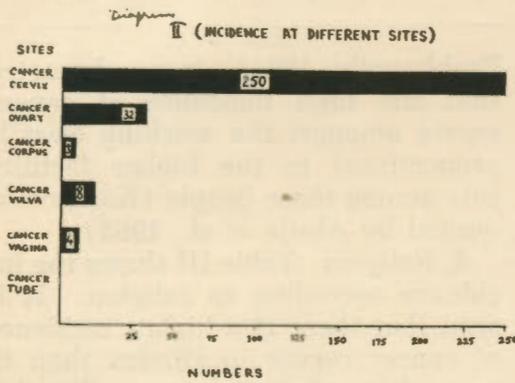
Diagram 1 shows the incidence of cancer cervix cases during this period of study. With the rise of general population, the incidence of cancer cases is also gradually rising. This

Diagram 1 (INCIDENCE OF ADMISSION OF CANCER CERVIX CASES DURING THIS PERIOD)



rise in incidence may also be due to better transport and medical facilities.

Diagram 2 gives the number of female genital cancers during this



But in India the incidence of corpus cancer is remarkably low (Dass and Mukherjea, 1961; Subhadra Devi and Prabhavati, 1961; Paranjothi, 1961; Mitra, 1961). There were only three cases of carcinoma of body of uterus out of 297 cases of genital cancers in this series.

Aetiological consideration

1. *Parity*: Table I shows the relationship of cancer cervix to parity. It is observed that cancer cervix is less frequent in nulliparous than in parous women. But the number of pregnancies does not seem to have any significant relationship to the incidence of cervix cancer. This is also

TABLE I
Relation of cancer cervix to parity

	Parity											
	0	1	2	3	4	5	6	7	8	9	10	Unknown
1		17	23	25	28	18	31	20	24	22	22	19

period at different sites. The total number of genital malignancies is 297 and cancer cervix is the highest (250 cases).

Carcinoma of body of the uterus is significantly high in the Western countries where the rate of occurrence of cervix cancer and corpus cancer in the ratio of 6 or 8:1 only a decade ago is seen to-day to be approximating each other; the basic reason for this change, according to Novak and Woodruff (1967), is increased life expectancy of these women to an age at which she is likely to develop corpus cancer and the widespread use of cytological smears detecting and eliminating cervix cancers at the pre-invasive stage long before it becomes clinically invasive.

the observation of Niebergs (1951). Maliphant (1949) and She *et al.* (Quoted by Boyd, 1964) emphasized the relationship of parity to cervix cancer. There is increased risk with each pregnancy when compared with controls of the same age group having no children or having one child. Cervical cancer is very rarely reported in nuns (Gragnon, 1950). From these observations, it may be assumed that childbirth trauma and subsequent cervical infection have some bearing on the aetiology of this cancer; but 25% of stump cancers are in childless women (Corscaden, 1962).

2. *Age*: Table II shows the relationship of cancer cervix to different age groups. The maximum numbers

TABLE II
Relation of cancer cervix to different age-groups

Years unknown	21-30 years	31-40 years	41-50 years	51-60 years	61-70 years	Average in years
3	29	93	77	45	3	31.25

are noted in the '31-40 years' age group. Ahuja and Reddy (1963) reported the maximum number in the '40-49 years' age group, whereas Paranjothi (1961) had the maximum number in '35-45 years' age group and Naidu (1961) in the '24-50 years' age group. Corscaden (1962) similarly reported the peak incidence in the '45-55 years' age group. The incidence of cancer cervix sharply falls after the age of 50 years. Our youngest patient was 21 years and the oldest 70 years.

3. *Socio-economic status*: Each patient is grouped in one of the recognised social classes as follows: low, middle and high. This type of classification is rather arbitrary and also unsatisfactory as our patients are mostly unintelligent. But the fact is that almost all our patients belong to the working class and only a few to the middle class and none to the high income group. This has been the observation of many other workers (Ahuja and Reddy, 1963; Paranjothi, 1961; Subhadra Devi and

Prabhavathi, 1961). It may be noted that the high incidence of cancer cervix amongst the working class is proportional to the higher fertility rate among these people (Kannaway, quoted by Ahuja *et al.*, 1963).

4. *Religion*: Table III shows the incidence according to religion. It is seen that there is a higher incidence of cancer cervix in Hindus than in any other religious group. But this is insignificant statistically as the Hindu population is much higher than the rest. Breaking down the general population figures in this state, Hindus account for seven million, Muslim two million and Christians 0.7 million. The incidence of cancer cervix population-wise is found to be 0.02, 0.004 and 0.01 per thousand population respectively. These figures showed a much lower trend in the Muslim community and it is generally believed that the cervix cancer is less in the circumcised community. Mitra (1957) did not find any statistical difference between Hindu and Muslim women. He be-

TABLE III
Distribution according to religion

Authors	Hindu	Muslim	Christians	Unknown
Present series (1969)	84.8%	6.0%	4.8%	4.4%
Paranjothi (1961)	87.2%	11.0%	1.7%	—
Lazarus (1953) (quoted by N. S. Devi (1961))	80.0%	40%	12%	—
K. G. Hospital series (quoted by N. S. Devi (1961))	95.8%	0.5%	3.7%	—
Singh <i>et al.</i> (1968)	91.41%	4.76%	4.13%	—
Ahuja <i>et al.</i> (1963)	—	0.9%	—	—

lieved that cancer cervix in India is probably due to the habits, environment, social status and cervical trauma of repeated childbirth.

5. *Marital status*: Boyd and Doll (1964) found a higher proportion of broken and remarriages in cervix cancer group. All our patients in this series were married. We had six widows but there were no instances of divorce and remarriage. Corscaden

or rare in virgins or nuns, and that masturbation does not increase its frequency (Rotkin, 1962), it appears that sexual intercourse during adolescence does have some aetiological significance (Moghissi and Mack, 1968).

Clinico-pathology

1. *Symptomatology*: Table IV shows the incidence of different

TABLE IV
Symptomatology

1. Irregular vaginal bleeding	82.60%	8. Dribbling of urine	1.50%
2. Post-coital bleeding	6.42%	9. Rectal symptoms	0.52%
3. Blood stained vaginal discharge	75.0%	10. Incontinence of faeces	0.42%
4. Offensive vaginal discharge	52.1%	11. Cachexia	22.00%
5. Pain in the abdomen	45.0%	12. Oedema of the legs	3.17%
6. Back-ache	32.72%	13. Lump in the abdomen	2.2%
7. Urinary symptoms	11.52%		

(1962) said "here is an unexplained correlation between the incidence of cancer of the cervix and divorce; 20.7% of the cancer patients had been separated, against only 5.7% of the matched controls who had remained united".

Early marriage is found to be significantly higher. 94% of this study group gave a history of marriage before the age of 20 years. The average age of marriage is the age of first coitus of these patients and is found to be 14.24 years. Early coitus is believed to have some relation to the incidence of cancer cervix. Wynder (1955) stated that coitus at the age of 16 years or younger doubles the risk over that of the first coitus at the age of 20-24 years. Doll (quoted by Ahuja and Reddy, 1963) believes that this may be due to excessive endocrine stimulation.

From the fact that cancer is none

symptoms at the time of admission.

Irregular vaginal bleeding is the first and foremost symptom of cancer cervix. This bleeding is of varying degree and does not have any relation to the stage of the disease. The duration of symptoms at the time of admission of these cases varied from 15 days to as long as six years, but in most cases the duration of symptoms ranged from 15 days to six months. Dass and Mukherjea (1961) gave similar findings. Subhadra Devi and Prabhavathi (1961) found that there was no correlation between the duration of symptoms and the stage of the disease. In a few cases, they detected an advanced growth with a very short duration of symptoms.

11. *Clinical staging*: There were 9 cases in stage I, 65 in stage II, 75 in stage III and 82 in stage IV. Staging was not known in 19 cases. No

case of stage 'o' was reported in this series. Ahuja and Reddy (1963) reported only six cases of carcinoma in situ out of 3081 cases. Most of our cases (157) belonged to stage III and stage IV. Hence, many of them were unsuitable for any therapy whatsoever. The factors for their late reporting to the hospital were ignorance, illiteracy and poverty, besides the wrong diagnosis and treatment by the peripheral attending physicians.

111. *Histological typing:* Microscopically, two types of cancer cervix were observed, i.e. squamous cell carcinoma in 245 (98%) and adenocarcinoma in 5 (2%). Ahuja and Reddy (1963) reported 98.44% squamous cell carcinoma and 1.56% adenocarcinoma. Subhadra Devi and Prabhavathi (1961) found 97.5% squamous cell carcinoma and 2.5% adenocarcinoma. Paranjothi (1961) observed squamous cell carcinoma in 94.4% and adenocarcinoma in 2.2% and intra-epithelial in 3.4%.

Cervical Cancer with Pregnancy

In this series, there were eleven cases of pregnancy associated with cancer cervix (4.40%). Paranjothi (1961) reported 17 cases (1.7%) out of 486 cases of genital malignancies. Subhadra Devi and Prabhavathi (1961) found 0.75% (15 cases) among all cancer cervix cases.

Treatment

The treatment of these 250 cases is shown in Table V. The immediate result of these cases during their stay in the hospital is shown in Table VI. Because of improper follow up, the ultimate results of these cases are not known.

TABLE V
Treatment

1. Radium alone	74
2. Deep X-ray alone	9
3. Radium and deep X-ray	95
4. Surgery alone	7
5. Surgery, radium and deep X-ray	8
6. Surgery and radium	14
8. Palliative (unsuitable for surgery or radiotherapy)	27
9. Treatment unrecorded	15
	Total 250

TABLE VI
Immediate results

1. Discharged after completion of treatment with satisfactory improvement	167
2. Left against medical advice, refusing treatment	23
3. Condition unsuitable for any therapy but discharged from hospital after palliative treatment	12
4. Condition deteriorating leading to death in the hospital during or before treatment	15
5. Immediate result unknown	22
6. Absconded from the hospital without treatment	3
7. Radiotherapy discontinued for the following complications:	8
(a) Anuria and uraemia	2
(b) Vesicovaginal fistula	1
(c) Intestinal obstruction	1
(d) Osteoarthritis	1
(e) Pelvic abscess	2
(with pyometra)	
(f) Severe radium reaction	1
	Total 250

Summary

1. An aetiological analysis of 250 cases of cancer cervix admitted into Assam Medical College and Hospital, Dibrugarh, during a 10-year period from 1953 is presented.

2. Incidence of cancer cervix was 250 out of 297 cases of genital malignancies, whereas that of corpus cancer was only three.

3. Cancer cervix was less in nulliparous than in parous women, but the number of pregnancies did not seem to have any significant relationship.

4. All cases were invasive cancers occurring among the '30-50 years' group.

5. There was a significant relationship between cancer and social and economic status as most of our cases were derived from the low-income group.

6. No relationship of cancer cervix to religion was noted.

7. Analysis of marital status of these cases was unsatisfactory.

8. Irregular vaginal bleeding was the foremost symptom.

9. Most of our cases were in the advanced stage.

10. 98% were squamous cell carcinoma and only 2% were adenocarcinoma.

11. Eleven cases of pregnancy associated with cancer cervix were noted.

12. The summary of the treatment with the immediate result is briefly tabulated.

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