

CARCINOMA OF UTERINE CERVIX

(A Clinical Study of 1692 Cases)

by

P. L. NAWALKHA,* M.D.,

R. L. MATHUR,** M.D.,

C. SARIN,*** M.S.

and

P. MISHRA,*** M.D., D.G.O.

Cancer is now number four killer in India's urban centres and is believed to affect one out of one thousand people in the country. According to the Indian Council of Medical Research statistics, the cancer of mouth, cancer of breast and genital organs constitute over 60% of all malignant tumours in our country with oral cancer topping the list, and cancer of the uterine cervix occupying the next place. An I.C.M.R. study of about 40,000 women in Agra revealed that 1 out of 57 were suffering from cancer of the cervix. The cancer of the uterine cervix is almost cent per cent curable if detected early (Wahi, 1972).

Many studies on cancer of uterine cervix in India have been reported by Ahuja and Reddy, 1963; Agarwal *et al*, 1968; Shanta, 1965 and others from different states. So far there has been no study from Rajasthan. In Rajasthan, Bikaner, because of the radium facility, has been treating most of the patients from all over the Rajasthan and neigh-

bouring parts of Punjab and Hariyana. The present study consists of analysis of 1692 cases attending the Associated Group of Hospitals, Bikaner between July, 1966 to December, 1974 with a view to draw conclusions regarding etiology, symptomatology, pathology and various gadgets used for treatments.

Observations

The age incidence per sé and comparison with figures from other centres is shown in Table I.

The peak incidence in all the series, except Manchester was, therefore, between 40-49 years and more than 75% of our cases were seen below the age of 50 years. In our series 2 cases were below the age of 20 years, and 156 cases were below the age of 30 years. In Manchester series (occidental side) more than 50 per cent cases belonged to around and above 50 years age group. The earlier occurrence in our country may be partly due to lesser longevity, but it seems that earlier marriage of the women in our country with consequent cervical injury during childbirth from an early age is one of the important factors responsible for it. Early coitus plays an important role in cancer cervix (Wynder, 1955). Coitus at

*Professor & Head, Department of Radiology.

**Lecturer in Radiology.

***Readers in Gynaecology and Obstetrics, S. P. Medical College and Associated Group of Hospitals, Bikaner, (Rajasthan).

Accepted for Publication on 26.4.1976.

TABLE I
Age Distribution and Comparison With Other Centres

Age in years	Present series Per cent	Halder Agra	Shanta Madras	Ahuja Andra	Man- chester
15-19	0.12			0.06	
20-29	9.20	6.00	9.00	7.39	} 12 under 40 years
30-39	31.67	39.00	29.20	29.63	
40-49	35.08	30.00	37.50	40.66	34
50-59	19.50	18.00	17.30	15.28	33
60-69	3.36	} 7.00	6.2	3.79	} 21
70 above	1.00		0.8	0.38	

the age of 16 years or younger doubles the risk over that of first coitus at the age or 20 to 24 years. Marriage or regular cohabitation is a significant factor and not pregnancy, perhaps due to excessive endocrine stimulation at this age. The details of marital status are not available in our study, however the average age of menarche was found to be 14 years and most of the patients belonged to the rural area where early marriage is the rule and thus the possibility of these predisposing factors cannot be ruled out Table II. The earlier cohabitation after delivery has also been regarded as a significant factor

pertaining to the vulnerability of cervix to coital trauma.

More than 97.5% cases belonged to a class where circumcision is not a practice, suggest that the poor hygiene and smegma accumulation over the prepuce of the male partners have definite relationship with cancer of the cervix in the female partner.

It is noteworthy that the factors which predispose to development of cervical carcinoma actually prevent development of breast cancer. The latter is more common in women who marry late and who do not breast feed their new-borns.

TABLE II
Ratio of Incidence According to Caste and Social Status

	Hindu	Muslim	Rural	Urban
No. of cases	1638	42	1056	636
Per cent	97.5	2.5	62.5	37.5

TABLE III
Relation of Parity to Incidence of Cervical Cancer

Parity	Nulli	1	2	3	4	5	6	7	8	9	10 or more	Not recorded
No. of cases	9	111	99	141	183	138	141	153	177	213	291	66
Per cent	0.5	6.6	5.8	8.3	10.8	8.2	8.3	9.0	10.	12.6	17.2	3.9
Ahuja <i>et al</i> (%)	4.34	9.31	15.2	11.9	14.1	14.1	9.6	4.8	3.72	9.3		3.4
Agarwal <i>et al</i> (%)	2.8	7.8	12.4	13.6	10.3	13.6	16.4	10.0	7.6	0.9	4.5	—

TABLE V
Gross appearances

Gross appearances	Fungating	Ulcerating	Raw area	Slough area
No. of cases	1128	519	39	12
Per cent	66.6	30.4	2.3	0.7

ureteric obstruction is the commonest mode of spread. Anterior and posterior spread to the bladder and rectum are common. Lymphatic spread usually occurs into parametrial glands and from these glands the spread extends higher up along the para-aortic lymphatics to lumbar, regional and rarely thoracic and cervical glands which has been observed in 84 of our 192 recorded cases of metastases. There were 18 cases of metastases to the bones, 108 cases of metastases to the lungs and 21 cases of metastases to the liver (Table VI).

TABLE VI
Metastases

Total number of cases	—	1692
Recorded metastases	—	192
Lymph nodes	—	84
Lungs	—	108
Bone	—	18
Liver	—	21

Stump Carcinoma

There was one case of stump carcinoma in the series.

Treatment

Treatment record was available for 1422 cases only and as evident from Table VII, the mainstay for treatment in our series is radiotherapy. There is no disagreement regarding the line of treatment in stages III and IV cases as these are not suited for surgery, and are thus referred to radiology department in toto. In stages I and II, no rational plan was followed for the choice of treatment

TABLE VII
Methods of Treatment

Method(s)	No. of patients
Surgery alone	2
Surgery + Chemotherapy	10
Surgery + Chemotherapy + Cobalt therapy	1
Cobalt therapy alone	766
Cobalt therapy + Radium/ Cobalt tubes	586
Cobalt + Chemotherapy	57

methods. In practice the choice of treatment in stages I and II is more guided by the views and treating trends of the specialist who has seen the patient first. With the advent of supervoltage machines like Cobalt-60, the effectiveness of radiotherapy has been more widely accepted, alone or in combination with intracavitary application of radium/Cobalt tubes, with improved results. Since radiotherapy does not distort the normal anatomy of the female genital tract, it is very much suited to our patient's psychology.

In this series in 13 cases of stages I and II Schauta's operation was performed successfully followed by a course of Endoxan.

Radiation treatment in stages I and II on an average lasted for 6-8 weeks and it consisted of 2 sessions of intracavitary application of radium/cobalt tubes, each lasting for about 48 to 56 hours with an interval of 4 to 8 days in between, followed by telecobalt therapy to the lateral parametria and pelvic walls.

TABLE VIII
Follow-up Records

	Radium + Telecobalt			Telecobalt		
	NED—5 Yrs. (Recorded)	Recur- rence within 5 Yrs.	Dead in 2 Yrs.	NED—5 Yrs. (Recorded)	Recur- rence within 5 Yrs.	Dead in 2 Yrs.
Stage I	27	3	—	—	—	—
Stage II	30	18	—	—	—	—
Stage III	42	63	6	51	123	21
Stage IV	—	—	—	4	39	27

The doses to point—A (paracervical cube) and point—B (lateral parametria) delivered was in the range of 7,000 to 8,000 rads. Rectal and bladder dose measurements were not taken in all the cases since neither scintillation dose-rate meter nor special probe meters were available with us during the period of record of cases upto 1974 December. In many cases cervical canal could not be defined at first sitting either because of massive papillary tumour or extensive destruction. In all such cases a course of Cobalt therapy was given first, and thereafter when the cervical canal got decipherable, an intracavitary insertion was done allowing for the doses already delivered to point—A and B.

Follow-ups in this study are not satisfactory. Most of the patients, despite best persuasive efforts do not turn up for check-up examinations. No evidence of disease (N.E.D.) for 5 years were seen in 162 cases of the recorded follow-up examinations.

The poor follow-up is due to predominance of patients from lower socio-economic group, poor educational standards, with scant regard to the essentiality and importance of timely post-treatment check-ups. We are sure that the percentage of NED—5 years or more is higher than reported in Table VIII.

In conclusion, we would like to stress that cancer of the cervix is observed in

younger age group in our country as compared to figures quoted from the west. It predominantly affects the lower socio-economic group. The size of the family bears a causal relationship. An association exists between early marriage and its incidence. If detected early it is curable in high percentage of cases. To achieve an overall improvement in the results, the public will have to be made cancer conscious.

Acknowledgement

We thank Dr. T. G. Mathur, Superintendent, Associated Group of Hospitals, for permitting us to carry out this study.

References

1. Agarwal, S., Vishnoi, R., Gandagule, V. N. and Chouhan, S. S.: *Ind. J. Cancer*, 5: 123, 1968.
2. Ahuja, P. and Reddy, D. B.: *J. Obst. & Gynec. of India* 13: 511, 1963.
3. Gagnon, F.: *Am. J. Obst. & Gynec.* 60: 516, 1950.
4. Halder, P. K.: *Ind. J. Cancer*. 2: 162, 1965.
5. Malipant, R. G.: *Brit. Med. Jour.* 1: 978, 1949.
6. Shanta, V.: *Ind. J. Cancer* 2: 142, 1965.
7. Wahi, P. N.: *Indian Council of Medical research project—1972.*
8. Wynder, E. L.: *Brit. Med. Jour.* 1: 743, 1955.

For Reprints:

Dr. P. L. Nawalkha, M.D.
Professor & Head of Dept. Radiology, S.M.S.
Medical College, Jaipur (Raj.).