RISK FACTORS IN INVASIVE CARCINOMA OF CERVIX

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SUMMARY

One hundred patients with invasive carcinoma of cervix, who underwent Radical surgery were analysed for the association of different risk factors. The mean age of the patients was 46.20 ± 8.05 years with 13.44 ± 0.97 as the age of menarche. The mean age of marriage and coitarche was 16.15 ± 1.71 and the age at first pregnancy was as low as 18.13 ± 1.48 years. Hindus were 98% of the cases. Multiparity comprised 93% of cases. Early marriage, early first child birth and multiparity are predominant risk factors here. Early coitarche with very frequent coital activity and non-use of contraception also play an important role. Low socio-economic status coupled with early marriage, coital frequency and multiparity influence the causation of cancer cervix as observed in this study.

INTRODUCTION

The different epidemiological risk factors known to influence the causation of preinvasive lesions of the cervix are well documented. In the Gynaecological service of Regional Centre of Cancer Research and Treatment, Cuttack. annually 250 cases of Cancer Cervix are received with 14.8% of cases in early invasive stages. The cases selected for radical surgery were analysed to understand the role of the different risk factors operating in this group of patients. In the early invasive form, Cancer of the Cervix is one of the most easily cured malignancies. If an attempt can be made to identify the population at risk, then probably early detection efforts can be directed specifically to the group at risk. This is useful when we are not in a position to go all out for routine screening procedures for the whole population.

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MATERIAL AND METHODS

Over the period 1983-89, one hundred patients of invasive carcinoma of Cervix were selected for surgery. All the patients were interrogated with regard to their menstrual history, marital history, coitarche, coital frequency, age at first pregnancy, parity, contra-

TABLE I

Age in years	11-13	14-16	17-19	20-24	25-29	30-39	40-49	50-59	60
Menarche	40	60	–	–	Mean 13.44 ± 0.97				
Marriage	–	70	26	4	Mean 16.15 ± 1.48				
Coitarche	–	70	26	4	–	–	–	–	–
1St Pregnancy	–	10	80	10	Mean 18.13 ± 1.48				
Ca. Cervix	–	–	–	–	2	22	37	33	6
					(Mean 46.20 ± 8.05)				

ception habit, socio-economic status and habitat. The relative influence of each risk factor has been analysed in this study.

OBSERVATION AND DISCUSSION

Early menarche shows a good correlation to Cancer Cervix as stated by Boyd and Doll (1964). In this series 40% cases had menarche by the age of 11-13 years (Table I). Early menarche may be a factor in Indian condition which leads to early marriage and subseqnently early coital exposure. Gagnon (1950) stated that Cancer Cervix is virtually unknown in nuns and single women.

In this series the mean age of marriage was 16.15 years and only 4% of patiens married beyond 20th year. This leads to a prolonged sexual activity by the patient. The highest number of cancer cervix was noticed in the age group of 40-49, the mean age being 46.20 years. Dunn (1966) showed a prevalence rate of 5-11/1000 in the 35-40 years age group. It seems that if a screening is made around the age of 30 years, about 90% of potentially malignant cases can be detected. Also it is evident from Table I that the mean age of first pregnancy was as low as 18.13 years. There was a decline in the cancer occurrence as the age at first pregnancy advanced to 20-24 years. Wright and Vessey (1978) said that age at first pregnancy was a significant risk factor for cervical cancer.

Religious circumcision in the husband among the Muslims protects them from cancer cervix. In this series there were 98% Hindu patients and no Muslims at all (Table II)

TABLE II

Religion	No. of cases
Hindu	98
Christian	2
Muslim	Nil

TABLE III

Parity	No. of cases
Nulliparous	Nil
1-2	7
3-4	39
5 or more	54

Multiparity is a well known risk factor for Cancer Cervix (Boyd et al, 1964) focussing

TABLE IV

Frequency	No, of cases	Partners	Numbers
Very frequent	80	Single	90
Average	20	–	–
Occasional	Nil	Multiple	10

just not on the frequency of coitus but also on the assault on the cervix during child birth. Para 3-5 comprised of 93% of cases (Table III). The association of cervical cancer with multiple pregnancies has been accounted for by early age at first coitus (Rotkin, 1967).

It is seen from Table IV that 80% of the patiens practised frequent coitus. The longer duration of marital life and frequency of coitus played an important role. Beral (1974) explained that multiple marriages, multiple sexual partners predispose significantly to cancer cervix. Only 10% of patients showed multiple sexual relationship either outside marriage or remarriage. Sebastian and Leab (1978) stated that the cervix was most vulnerable to the insult of frequent intercourse and that with multiple partners.

TABLE V

Contraception used	Number of cases
Barrier	Nil
I.U.C.D.	Nil
Oral Pills	10
Permanent	10
None	80

Boyd and Doll (1964) demonstrated a slightly reduced incidence of cancer cervix in those using barrier contraceptives. There was no barrier or I.U.C.D. users in this series and 80% of cases have not practised any contraception at all, leading to 93% multiparity rate which jointly contributed to the risk. Boyes et al (1981) have identified the use of oral pills as a high risk factor and in this series 10% of the patients were oral pill users.

Majority of the patients came from low-socio-economic status and from rural area. Females with low socio-economic class and little education showed highest risk for cervical cancer (Hakama, 1983).

SUMMARY AND CONCLUSION

One hundred cases of invasive carcinoma of cervix who underwent surgical treatment were analysed for the epidemiological risk factors. Early menarche, early marriage and early frequent coital activity were influencing the risk of cancer cervix. Early first pregnancy and multiple pregnancies also contribute to the risk. Poor socio-economic status and rural habitat was associated with majority of the patients.

TABLE VI

Socio-economic status*	Number	Habitat	Number
Above poverty line	45	Urban	36
Below poverty line	55	Rural	64

In a developing country like ours, counselling against early marriage, social motivation for delayed first pregnancy and first child birth, promotion of barrier contraception should be emphasised because hardly anything can be done about the socio-economic status. Identification of the population at risk and early detection of the disease should be aimed at.

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