

Protective Effect of a Traditional Practice Against Cervix Cancer in Kerala

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INTRODUCTION

Cancer of the uterine cervix is one of the most frequent types of malignancy seen among females in Kerala. One sixth of female cancer patients belong to this group. Regional Cancer Center, Thiruvananthapuram, has reported 16.2% of uterine cervix cancer among females during 1997. It is 15% at Amala Cancer Hospital, Thrissur (1999). Cancer of uterine cervix is rare among unmarried women and almost absent in celibate nuns. It has been shown to occur in high incidence in urban residents, compared with rural; in people of low social class, compared with those of high; in Negroes in United States, compared with Whites; in married women, compared with single; in women with many pregnancies, compared with those with few or none; in women with young age at first marriage, compared with those who marry old; in women with young age at first pregnancy, compared with those whose first pregnancy is late; in those who have first intercourse in adolescence, compared with those whose first intercourse is after adolescence; in people with a history of syphilis or gonorrhoea, compared with those without such history; and in those with a number of sexual partners, compared with those with only one partner.

Melamed et al. (1969) and Reeves et al. (1985) have suggested that a protective barrier may prevent an agent from reaching the cervix and risk of cervical cancer is less in women who use barrier contraceptives than in those who use oral contraceptives. Jayant (1987) and many others have reported the role of poor penile hygiene in the development of cervix cancer.

It has been suggested that the herpes virus-2 and genital papilloma virus (HPV) may be etiologically related to ca. cervix. Coppleson and Reid (1968), Reid (1974) and Beral (1974) have reported that the carcinogenic agent for the cervical epithelium is a sperm factor that sensitizes cells and initiates the neoplastic process. Any factor, which reduces sexual activity during the epochs of cervical cellular activity, has a

protective effect against cervix cancer. Kessler (1976) has found that women married to men whose previous wives had cervical cancer have significantly elevated rates of cervix cancer.

This study is to focus on the traditional practice of local people that the pregnant women are cared at their paternal house during the late pregnancy and early months after delivery. During this period they are away from their husbands resulting in a reduced sexual activity. A significant deviation from this traditional practice is observed in certain occasions. The emergence of small families necessitates the presence of women in her family. The influence of sexual activity during this period as a causative factor for carcinoma cervix is analysed. So far no reports are available on this factor and its influence in the genesis of cancer.

MATERIALS AND METHODS

The present report is a study conducted in Amala Cancer Hospital, Thrissur, with 200 uterine cervix cancer patients and equal number of matching controls. Special care is taken to interview the study group. The service of a female investigator was made available. Before interviewing, the help of a clinician is also sought to give a briefing to the patients and requested their co-operation. Controls are the female bystanders of the patients, who are clinically and cytologically free of cancer and matching to the cancer cases in age (five year groups), religion socioeconomic status and geographic location.

A special format is formulated in accordance with the known risk factors, special factors of the study and the social customs of the local population. Jayant et al. (1987) considered the age at first coitus as the age at marriage. The answers relating to the question of multiple sexual partners of their husbands are not analysed because of the difficulty to get it confirmed from their husbands. The findings are compared between cases and controls. Statistical analysis is done using standard normal curve for proportions

RESULTS

The data regarding the sexual habits and reproduction related attributes of the cancer patients and controls are given in the table 1. Fifty six percent of the cancer patients are before the age of 50 years. The age at menarche is within the normal age group in majority of the cases and controls. Forty percent of the patients and 20% of the controls are married at the age of 17 or before. A significantly increased percentage (50%) of controls are married only at the age of 20 or later. Forty six percent of the patients had their first child birth in the age of 19 or before, where it is only 19% in the case of control. The age at last pregnancy is also significantly late (later than 40 years) in cancer patients than the controls. This shows a comparatively long active sexual life of cancer patients. However, the numbers of pregnancies are higher

in control group. Frequency of intercourse is another factor attributed to the extend of sexual activity. In this study, 50% of the patients have reported to intercourse daily and the rest once in 2-3 days. These values are significantly different from the control group.

The experience of intercourse during the last trimester of pregnancy and early months of postpartum are analysed. 94% of the patients had intercourse during the last trimester (8-10 months) of pregnancy. Only 7% of controls have reported this. 92% of the patients also reported to intercourse in the 1-3 months of postpartum. Thirteen percent of controls have also stated this. However, very few patients and controls have reported about the intercourse during menstruation.

Personal hygiene is said to be well maintained by the study group. However, many of them are ignorant about the sexual hygiene.

Table 1: Percentage distribution of the sexual habits and reproduction related attributes in carcinoma cervix

			<i>Cancer cervix (n = 200)</i>	<i>Control (n = 200)</i>
Age	≤	29 years	4	0
		30-39 years	18	13
		40-49 years	34	31
		50-59 years	26*	43
Age at menarche	≥	60 years	18	13
	≤	11 years	8*	0
Menstrual flow	≥	15 years	42	40
	≤	2 days	4	0
Age at marriage	≥	7 days	18**	60
	≤	15 years	16*	6
		16-17 years	24*	13
		18-19 years	34*	25
		20-21 years	6**	25
		22 years	20*	31
Age at first child birth	≤	17 years	18	13
		18-19 years	28**	6
		20-21 years	26*	13
		22-23 years	10**	43
Age at last pregnancy	≥	24 years	14*	25
	≥	40 years	22**	7
No. of pregnancies	≤	5	42*	27
		6-10	42**	60
		11	12	13
Maximal frequency of Intercourse at any period of life.	≥	daily	50*	33
		one in 2-3 days	50*	67
Intercourse during last Trimester of pregnancy.			94**	7
Intercourse upto 3 months Postpartum.			92**	13
Washing before Intercourse			0	0
Washing after intercourse			22	27

Standard normal test for proportions

*Significant at 5% level. ** significant at 1 % level.

Neither the patients nor the controls have reported to wash their genitals before the intercourse. Anyhow, 22% of patients and 27% of the controls have claimed to wash their genitals after the coitus. Most of them are ignorant about the genital hygiene of their spouses.

DISCUSSION

Cancer of cervix is predominantly a disease of married women, especially occurring in those who marry at an early age and have long active sexual life. A significantly increased percent of the patients of this study have reported to intercourse daily during their active periods of life. This report is similar to the reports of Vonka et al. (1984) who observed 46% of their patients under this group. Early age at first intercourse, early age at first childbirth, frequency of coitus and number of pregnancies are higher in the present study group. Average age at last childbirth is also significantly later in the present study group.

The important finding of this study is that patients had intercourse during late pregnancy and soon after delivery. 94% of the patients had intercourse in the last trimester of pregnancy and 92% in the first 1-3 months of postpartum. This observation is highly significant in comparison to the controls. Coppleson (1970) and Vonka et al. (1984) suggested that cervical metaplastic epithelium is sensitive during the epochs of cervical cellular activity (menarche, menstruation, pregnancy and soon after delivery). Many authors have reported that the carcinogenic agent for cervical epithelium is a sperm factor that sensitizes cells and initiates the neoplastic process. Singer et al. (1976) reported that seminal DNA, mainly by virtue of its histamine content (a basic protein) could interact with the host DNA (cervical epithelium) to initiate epithelial transformations. If the intercourse occurs during the epochs of cervical cellular activity the sperm chromatin is likely to be imbibed with the cervical mucosa setting up an irritable focus which ultimately may lead to autonomous cell division, dysplasia, carcinoma *in situ* and invasive carcinoma.

The observation of Kessler (1976) as the women married to man whose previous wives had cervical cancer have significantly elevated rates of cervix cancer and that the husbands of cervical cancer patient are more promiscuous

than husbands of controls are also in accordance in the presence of a male factor in the etiology of cervix cancer.

The protective effect of barrier contraceptives against cervix cancer by preventing this agent on reaching cervix is in support of this finding. Hence it is suggested that intercourse during the periods of cervical cellular activity (Menarche, menstruation, pregnancy, soon after delivery) is a high risk factor for cervix cancer. Based on this, probable risk model is emerged if intercourse occurs during the last trimester of pregnancy and early months of postpartum. The sperm factor is likely to be imbibed with the then sensitive cervical epithelial cells which may ultimately lead to autonomous cell division, resulting in dysplasia, carcinoma *in situ* and invasive carcinoma (ca. cervix).

Hence the protective effect of the traditional practice avoiding the chances of intercourse during these periods is to be recognised.

KEYWORDS Cervix Cancer. Protective Effect. Traditional Practice

ABSTRACT Cancer of the uterine cervix is one of the most frequent types of malignancy seen among females. One sixth of female cancer patients belong to this group in Kerala. A case control study on the etiology of cervix cancer was conducted at Amala Cancer Hospital, Thrissur, Kerala. Two hundred cervix cancer patients and equal numbers of matching controls were included in the study. Gynecological and sex related habits were included in the questionnaire. All are interviewed with the help of a female investigator. During this study a social practice regarding the pregnancy and delivery is analysed. This is the traditional practice of the people that the pregnant women are cared at their paternal house during the late pregnancy and early months after delivery (postpartum). This reduces the chances of sexual act during this period. Many authors have reported that the carcinogenic agent for the cervical epithelium is a sperm factor that sensitizes cell and initiates the neoplastic process. Any reason, which reduces sexual activity during the epochs of cervical cellular activity, has a protective effect against cervix cancer. Ninety four percent of cancer patients have reported that they had intercourse during last trimester of pregnancy (only 7% of controls). Similarly 92% of patients reported that they sexual intercourse during early months of postpartum (only 13% of controls). This study shows the reduction in the sexual activity during late pregnancy and early postpartum gives a protection against cervix cancer.

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