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Original Research Article

A Hospital-Based Assessment of Cervical Dysplasia in Relation to Socioeconomic Status and Various Environmental High-Risk Factors

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Abstract

Aim: The objective of the present study was to assess cervical dysplasia in relation to socioeconomic status and various environmental high-risk factors.

Methods: A prospective study was conducted in the Department of obstetrics and gynaecology, BMIMS, Pawapuri, Nalanda, Bihar, India for one year . Total 200 Married women who have pre- and post-menopausal age group were included in this study.

Results: Incidence of mild dysplasia was 52.5% followed by 30%Moderate dysplasia and 17.5% Sever dysplasia. The maximum age incidence of dysplasia has been found in the age group 20-30 years 40% and followed by 30-40 years 18% and above 50 years we found only 8%. The percentage positivity of cervical dysplasia was higher in lower socioeconomic group. A high incidence is noted in those who are illiterate (45%) and followed by up to 8th standard and 12th standard and only 6 were graduate. Incidence of dysplasia high in rural 65% and 35% in urban area and Most of these women were married before the age of 20 years. Out of 200 cases; 80% were from Hindu patients while 15% belonged to belonged to Muslims and 5% cases were from other religion. The most common symptoms was vaginal discharge was present in 65% patients followed by backache and pain abdomen 10%, Menstrual complaint 7.5%, Intermenstrual bleeding 6% and Post-menopausal bleeding 2.5%, Postcoital bleeding 5%, Pruritus vulva vagina 4%.

Conclusion: Dysplasia is a neoplastic precursor of invasive disease. It is important to identified the high risk population and suggest social measure to motivate and educate women for a positive attitude towards cancer consciousness to make the screening program useful for prevention cervical dysplasia.

Keywords: Cervical dysplasia, socioeconomic, risk and environmental.

Introduction

Cervical dysplasia is considered as a fence between benign and malignant lesions.[1] Cervical cancer is the most common cancer of developing countries. Around 80 % of the global cervical cancer cases are reported from developing countries.[2] The lesions which show characteristics of cervical dysplasia are known as squamous intraepithelial lesions (SIL) or cervical intraepithelial neoplasia (CIN). Human papilloma virus (HPV) is considered as the most important etiology for development of

cervical carcinogenesis; the initial idea of which was provided by Zur Hausen (1976).[3] Various studies have stated that this HPV infection is pretty common, especially in young women.[4,5]

So, getting infected with HPV virus does not necessarily mean that the women will develop cervical dysplasia. A persistent and prolonged HPV infection is the cornerstone of cervical dysplasia which was put forward by many studies.[6-8] Fife et al., (2001)[9] put forward the fact that infection by multiple HPV types could have a possible role in growth of cervical dysplasia. Another study[10] stated that HPV 16 and HPV 18 are the commonest high risk strains associated with cervical dysplasia. According to yet another study, along with HPV 16 and 18, other strains like 31, 33, 35, 45, 52 and 58 constituted about 90% of cervical lesions.[11] There are several other risk factors which contribute to the development of cervical dysplasia and cancer with HPV infection. Among these risk factors; smoking, use of oral contraceptive pills (OCP) and nutritional deficiency of various ingredients are the most studied ones. Many studies have indicated that the degree of cervical dysplasia is directly proportional to the intensity of smoking.[12-14]

Correlation of OCP use with cervical dysplasia has been subjected to different views by various studies. Some authors reported that cervical dysplasia is associated with oral contraceptive use[15,16] whereas, some other authors concluded that the development of cervical dysplasia is independent of contraceptive use.[17,18] Many studies have correlated nutritional levels of various components with cervical dysplasia. Various studies were carried out to correlate folate and Vitamin C level with occurrence of cervical dysplasia.[19,20]

The best weapon against gynaecological cancer is early diagnosis. The use of papanicolau technique of screening of cervical cancer appropriate intervention is a simple, well recognized and appreciated method of early diagnosis.[21] High risk population for the screening of cervical dysplasia and neoplasia – multiple sexual partner, women who start sexual life early before 21 years increases with rate of STD, low socioeconomic status, occupation, education, black, poor and uneducated population.

The objective of the present study was to assess cervical dysplasia in relation to socioeconomic status and various environmental high risk factors.

Materials and Methods

A prospective study was conducted in the Department of obstetrics and gynaecology, BMIMS, PAWAPURI, Nalanda, Bihar, India for one year.

Methodology

Total 200 Married women who have pre and post-menopausal age group were included in this study. Women in reproducible age group, pre and post-menopausal age group-Name, husband name, age, religion, community, rural/urban, occupation of both husband and wife, education, income, marital life, menstrual history, obstetric history, personal history, smoking, tobacco, past and family history. Menstrual and other gynaecology complaints were recorded with particular attention to the amount, colour and type of vaginal discharge. General and systemic examination of all system. Vaginal examination: Prior to gynecological examination a speculum examination was done and vaginal and cervical smear were taken and fixed vaginal discharge were noted, the condition of cervix and vagina observed.

Three important investigations have been done

1. Cervical smear examination in all cases
2. Colposcopic examination
3. Cervical biopsy

Results

Table 1: Classification of smear according to various grade of dysplasia

Grade	No. of cases	%
Mild dysplasia	105	52.5
Moderate dysplasia	60	30
Sever dysplasia	35	17.5

Incidence of mild dysplasia was 52.5% followed by 30% Moderate dysplasia and 17.5% Sever dysplasia.

Table 2: Demographic Profile of patients

Age group (yrs)	Total case=200	Grades of dysplasia		
		Mild	Moderate	Severe
Below 20	40	15	15	10
20-30	80	50	22	8
30-40	35	20	5	10
40-50	29	10	15	4
Above 50	16	10	3	3
Socioeconomic status				
Low	140	80	30	30
High	60	25	30	5
Area				
Rural	140	70	30	20
Urban	70	35	30	10
Religion				
Hindu	160	80	50	30
Muslim	28	18	7	3
Skin	12	7	3	2
Christian	0	0	0	0
Education status				
Illiterate	90	40	30	20
Up to 8^{th}	60	30	20	10
Up to 12^{th}	30	20	5	5
Undergraduate	14	10	4	0
Graduate	6	5	1	0
Income				
Low	80	35	25	20
Middle	70	45	20	5
High	50	25	15	10
Marital life				
0-5	6	4	2	0
5-10	20	16	2	2
10-15	40	20	12	4
15-20	50	30	24	6
20-25	28	10	8	8
>25	56	25	12	15

The maximum age incidence of dysplasia has been found in the age group 20-30 years 40% and followed by 30-40 years 17.5% and above 50 years we found only 8%. The percentage positivity of cervical dysplasia was higher in lower socioeconomic group. A high incidence is noted in those who are illiterate (45%) and followed by up to 8th standard and 12th standard and only 6 were graduate. Incidence of dysplasia high in rural 65% and 35% in urban area and Most of these women were married before the age of 20 years. Out of 200 cases; 80% were from Hindu patients while 15% belonged to belonged to Muslims and 5% cases were from other religion.

Table 3: Symptoms

Symptoms	No %
Vaginal discharge	130 (65)
Backache and pain abdomen	20 (10)
Menstrual complaint	15 (7.5)
Intermenstrual bleeding	12 (6)
Postcoital bleeding	10 (5)
Pruritus vulva vagina	8 (4)
Post-menopausal bleeding	5 (2.5)

The most common symptoms was vaginal discharge was present in 65% patients followed by backache and pain abdomen 10%, Menstrual complaint 7.5%, Intermenstrual bleeding 6% and Post-menopausal bleeding 2.5%, Postcoital bleeding 5%, Pruritus vulva vagina 4%.

Discussion

Cervical cancer is the 2nd most common cancer in women worldwide after breast cancer and most leading cause of cancer death in women in developing countries.[22] Cervical dysplasia is a disordered growth of the epithelial lining of the cervix.[23] It is the precancerous condition of the cervix which may progress to cervical cancer over a period of time, in an average of 10–15 years. Cervical dysplasia especially the low-grade lesion regresses spontaneously in a significant number of patients, allowing for expectant management with serial cytologic smears, whereas the high-grade lesions will progress to an invasive cancer if left untreated.[24,25] The incidence of cervical cancer has reduced remarkably in developed countries where there are effective, well-coordinated screening programs, and prompt treatment of cervical dysplasia. However, this incidence has been on the increase and has constituted major health problems among women in developing countries where there are no well-coordinated and effective screening programs.

The maximum age incidence of dysplasia has been found in the age group 20-30 years 40% and followed by 30-40 years 17.5% and above 50 years we found only 8%. Babarinsa et al. in 1998 found a demonstrable increase in the incidence of cervical carcinoma, particularly among women above 30 years of age.[26] The percentage positivity of cervical dysplasia was higher in lower socioeconomic group. The majority of the women with abnormal cervical cytology smears were living above the poverty line which was different from the known association of abnormal cervical cytology with poverty.[27] A high incidence is noted in those who are illiterate (45%) and followed by up to 8th standard and 12th standard and only 6 were graduate which was comparable to the studies.[28,29] Incidence of dysplasia high in rural 65% and 35% in urban area and Most of these women were married before the age of 20 years. Out of 200 cases; 80% were from Hindu patients while 15% belonged to belonged to Muslims and 5% cases were from other religion.

While persistent HPV infection is the cornerstone of cervical dysplastic lesion formation and eventual development to cervical cancer, HPV infection alone does not cause cervical dysplasia. There are an array of risk factors which have been studied from time to time for assessing the risk associated with cervical dysplasia independently and in conjunction with HPV infection. Women infected with high risk-HPVs have a multifold risk of getting affected by a high grade cervical lesion paralleled with non-infected individuals. The nucleic acids of the high risk-HPVs can be readily identified in virtually all high grade cervical lesions.[10,30] Therefore, detection and diagnosis of CIN is extremely necessary to prevent its further development to cervical cancer. Various epidemiological studies have discovered that high risk- HPV infections are very common and are easily detected, especially in young women.[4,5] Mostly, the infection is self-limited and heals naturally without significant cervical pathologies. Only part of these infections continues to develop into cervical dysplastic lesions. A case controlled study[31] was carried out to ascertain the risk factors for cases which were histologically confirmed as mild, moderate and severe dysplastic lesions. In a case control study it was concluded that, hormonal contraceptive use is associated with some increase in the rate of cervical dysplasia which can be reduced by using barrier method during sex.[16] There are studies which indicated that there is a strong correlation between factors like multiparity, early age of marriage, early age of childbirth and lack of awareness/ education to cervical carcinogenesis.[32-34]

Conclusion

Dysplasia is a neoplastic precursor of invasive disease. It is important to identified the high risk population and suggest social measure to motivate and educate women for a positive attitude towards cancer consciousness to make the screening program useful for prevention cervical dysplasia.

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