Original Article

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Histopathological Evaluation of Cervix in Symptomatic Tribal Women of Jharkhand

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Abstract

Background: Cervical cancer is a major cause of mortality and premature death among women in their most productive years in low- and medium-resourced countries in Asia. *Aims:* Aim of this study to find the colposcopic findings in the symptomatic patients with cervical erosion and correlate the findings with cytology and histopathology. *Methods:* All the patients coming to gynaecological OPD with symptoms of white discharge, pruritus vulvae, menstrual irregularities were examined by per speculum examination and all those who had cervical erosion were included in the study and Pap smear and colposcopy both were done in all subjects. The colposcopic guided biopsy was done in women with abnormal findings on colposcopy (100 women) and reports were compared. Abnormal colposcopic findings were graded according to Reid's colposcopic index (RCI). *Results:* Majority of patients came with the complaint of white discharge per vaginum (55%). Out of total patients, 85 women (70.9%) had inflammatory pap smear and 35 women (29.1%) had abnormal pap smear. All patients underwent colposcopic examination and out of 100 patients, 67 (55.8%) showed normal colposcopic findings and 50 women (41.6%) had abnormal colposcopic finding and biopsy was taken. Only 3 women had unsatisfactory colposcopy. Histopathology confirmed 24 (48%) women with CIN I, 12 (24%) CIN II, 6 (12%) CIN III and only 2 (4%) women with carcinoma cervix. The colposcopy findings and histopathology correlated in 88%. *Conclusions:* Colposcopy should be prescribed to all symptomatic patients with cervical erosion as it is a good diagnostic tool for pre-malignant conditions of cervix and correlates well with histopathological findings.

Keywords: Cervical Erosion; Colposcopy; Cytology; Histopathology.

Introduction

Carcinoma of cervix is the second most common cancer among women world-wide, next only to breast cancer [1]. Every year cervical cancer is diagnosed in about 5 lacks women globally and is responsible for more than 2.8 lacks deaths annually. Wide variation in the incidence of cervical cancer across the globe. 80% of cases occur in developing countries, like India (reports one fourth of cervical cancer each year). In India - the commonest cancer among women. Cancer breast is the leading cancer among females as reported in registries from Mumbai, Delhi and Bangalore while in rest of registries, cancer cervix is the leading cancer followed by breast cancer [1,2].

According to WHO (2014) report India has the largest burden of cervical cancer patients in the world. 1 woman dies of cervical cancer every 8 minutes in India. India has a population of 453.02 millions women ages 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 122,844 women are diagnosed with cervical cancer and 67,477 die from the disease. Cervical cancer ranks as the 2nd most frequent cancer among women in India and the 2nd most frequent cancer among women between 15 and 44 years of age [3].

Cervical erosion/ectropion (or cervical eversion) is a condition in which the central (endocervical) columnar epithelium protrudes out through the external os of the cervix and onto the vaginal portion of the cervix, undergoes squamous metaplasia, and transforms to stratified squamous epithelium [2].

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When symptoms such as postcoital bleeding and troublesome vaginal discharge occur in women in the presence of cervical ectropion, it becomes important to identify promptly whether the ectropion is simply a benign lesion that has associated symptoms or whether it is a significant sign of associated infection, CIN or even cancer. Incidence of preclinical and invasive carcinoma is undeniably high amongst the group of "unhealthy cervix". Incidence of invasive carcinoma is reported to be 29 / 1000 in women with abnormal cervix but only 1.53 per 1000 in those with a healthy cervix. ICO Information Centre on HPV and cancer (Summary Report 2014-08-22). HPV and Related Diseases in India 2014 [4].

The incidence of cervical erosion along with cervical hyperplasia and carcinoma have been extensively observed and diagnosed separately since mid of 70's [5-6]. In present study we have studied the correlation among low socio-economic group of tribal women of Jharkhand has been poorly worked out.

Material & Methods

This prospective study was conducted in the department of Anatomy, MGM Medical College, Jamshedpur during January 2015 to April 2016. In this study 100 tribal women from low-socio-economic strata and of different age group with the main complain of vaginal discharge, pain lower abdomen and backache or irregular bleeding attended gynaecological OPD of MGM Medical College Jamshedpur and given consent to participate in the study were included. A complete clinical history and demographic status of the subject was recorded as per the proforma, with respect to age at presentation, age at marriage, parity, first child birth, socioeconomic status and literacy. Cases excluded from the study were: pregnant women, patients who have undergone hysterectomy, excessive vaginal bleeding at the time of examination and patients on therapy.

Conventional pap smears were taken with the help of the gynaecologists at the squamo columnar junction using Ayer's spatula in clockwise direction for 360°. The endocervical smears were made by rotating the endocervical brush. Two separate smears were made from the squamocolumnar junction and endocervical area on a single glass slide. The smears were immediately fixed in 95% Isopropyl alcohol for 30 minutes.

Biopsy was taken from cervix mainly in cases with epithelial cell abnormality on pap smears and badly eroded cervix, by applying 3% acetic acid (acetowhite areas). They were fixed in 10% formalin, routinely processed and stained with haematoxylin and eosin.

The pap smears were reported by adopting "The Revised Bethesda System of Classification (2001 TBS)" [7] and histopathology "WHO classification of tumours of uterine cervix" [8]. Correlation of cytological findings with histopathology was done considering histology as gold standard.

Results

A total of 100 participants were screened for the study. Majority of patients came with the complaint of watery white discharge per vaginum (54%) followed by Pain Lower abdomen and backache (23%) and Watery & Blood stained discharge per vaginum (11%) (Table 1).

Majority of patients were in the age group of 21-30 years (47%) followed by age group 41-50 years (27%) and age group 31-40 year (22%). There were no any patients reported above 60 years of age (Table 2).

The histological findings were depicted in Table 3 which showed that the majority of women (34%) had Cervicitis and 18% had hyperplasia. There were a significant number of women those histopathological reports showed both Cervicitis & Hyperplasia (31%). Dysplasia / CIN was reported in 13% of cases and 4 patients were reported as case of carcinoma cervix (Table 3).

Table 1: Distribution of cases according to major complaints (Symptoms)

Symptoms	Frequency (No.)	%
Watery Discharge per vaginum	54	54
Foul smelling discharge per vaginum	07	07
Blood stained discharge per vaginum	04	04
Watery & Blood stained discharge per vaginum	11	11
Pain Lower abdomen & backache	23	23
Irregular bleeding per vaginum	02	02
Total	100	100

Table 2: Showing distribution of patients according to age group

Age Groups (In Years)	Frequency (In NO.)	Percentage
21-30	47	47
31-40	22	22
41-50	27	27
51-60	04	04
Total	100	100

Table 3: Distribution of Cases according to Histological Findings

Histological Observation	Frequency (N=100)	%
Cervicitis	34	34
Hyperplasia	18	18
Cervicitis & Hyperplasia	31	31
Dysplasia / CIN	13	13
Invasive Ca	04	04

Table 4: Distribution of Histological Findings according to Age Group

Histological observation	Age in Years				Total
	21-30	31-40	41-50	51-60	
Cervicitis	20	06	08	00	34
Hyperplasia	06	05	05	02	18
Cervicitis & Hyperplasia	15	04	11	01	31
Dysplasia / CIN	05	05	02	01	13
Invasive Ca	01	02	01	00	04
Total	47	22	27	04	100

Table 5: Showing distribution of Histological observations according to duration of Marriage

Age in Years	Cervicitis	Hyperplasia	Cervicitis & Hyperplasia	Dyplasia / CIN	Invasive carcinoma	Total
Unmarried	02	0	0	0	0	02
10-15	02	01	0	01	0	04
16-20	13	11	17	05	01	47
21-25	11	05	13	04	02	35
26-30	05	01	01	01	0	08
More than 30	01	0	0	02	01	02
Total -	34	18	31	13	04	100

It was observed that the frequency of cases on the basis of Histological Findings and according to Age Group. It wasfound that majority of cases of cervicitis were in age group of 21-30 yrs followed by both cervicitis and hyperplasia (Table 4).

The Table 5 showed that the majority of patients with Cervicitis were from those attended marital age 16 20 years (38%) followed by 21-25 years (32%). Among the patients those suffering with hyperplasia majority (61%) were from age group 16-20 years and 27% were from age group of 21-25 years. Similar observation was found in patients those were suffering with Cervicitis & Hyperplasia (55%) and Dyplasia / CIN (38%).

So this table indicates that early marriage particularly below 20 yrs. make the women very much vulnerable for the development of different cervical lesion.

The Table 6 depicted that out of total cases 12% cases were nulliparous and 88% were parous. Among the parous majority were from multiparous (28%) followed by Triparous (24%). Amongst the nulliparous majority were from Cervicitis followed by Cervicitis & Hyperplasia. Similar observation was observed among the multiparous and Triparous. Thus maximum incidence of different cervical lesion is found in cases of high parity.

The Table 7 showed that the epithelial hyperplasia was more common (i.e. 68.6%) than Adenomatous hyperplasia (i.e. 31.3%). Amongst the epithelial hyperplasia, the majority of cases were of moderate and mild hyperplasia in the age gr. of 21 to 30 years followed by age group of 41-50 years. Similar findings were found in the patients those with adenomous hyperplasia.

Table 6: Showing distribution of Cases according to Parity

Histological observation	Nulliparous	Parous					Total
		Uniparous	Biparous	Triparous	Multiparous (Parity more than 3)	Total	
Cervicitis	4	5	7	8	9	29	33
Hyperplasia	2	3	3	5	5	16	18
Cervicitis &Hyperplasia	3	5	8	8	9	30	33
Dysplasia / CIN	2	2	2	2	5	11	13
Invasive Ca	1	0	1	1	0	2	3
Total -	12	15	21	24	28	88	100

Table 7: Showing Types and Grades of Hyperplasia according to Age Group

Age group In Year	Epithelial Hyperplasia (N=35)				Adenomatous Hyperplasia (N=16)				Total
	Mild	Moderate	severe	Total	Mild	Moderate	severe	Total	
21-30	7(13.7)	8(15.6)	0	15(29.4)	4(7.8)	4(7.8)	0	8(15.6)	23(45.09)
31-40	3(5.8)	5(9.8)	0	8(15.6)	2(3.9)	3(5.8)	0	5(9.8)	13(25.4)
41-50	2(3.9)	6(11.7)	0	8(15.6)	1(1.9)	2(3.9)	0	3(5.8)	11(21.5)
51-60	2(3.9)	2(3.9)	0	4(7.8)	0	0	0	0	4(7.8)
Total	14(27.4)	21(41.1)	0	35(68.6)	7(13.7)	9(17.6)	0	16(31.3)	51(100)

Discussion

Routine cervical cytology has been shown to be an effective screening tool for CIN and cervical cancer. However, negative cytology does not always rule out CIN [9-10].

In present study we observed that the maximum number of cases of unhealthy cervix were in the age group of 21-30 years (47%). While other study conducted in other part of country showed that majority of cases of unhealthy cervix were in the age group of 31–40 years [11-13]. It confirms the well-established fact that, unhealthy cervix is more common in women of reproductive age group who are sexually active.

The histological findings were depicted in table - 3 which showed that the majority of women (34%) had Cervicitis and 18% had hyperplasia. There were a significant number of women those histopathological reports showed both Cervicitis & Hyperplasia (31%). Dysplasia / CIN was reported in 13% of cases and 4 patients were reported as case of carcinoma cervix (Table 3).

It was observed that the frequency of cases on the basis of Histological Findings and according to Age Group. It wasfound that majority of cases of cervicitis were in age group of 21-30 yrs followed by both cervicitis and hyperplasia (Table 4).

Age of marriage and duration of exposure to sexual intercourse had a distinct role in genesis of cervical dysplasia. The majority of patients with Cervicitis were from those attended marital age 16-20 years (38%) followed by 21-25 years (32%). Among the patients those suffering with hyperplasia majority (61%) were from marital age group 16-20 years and 27% were from age group of 21-25 years. Similar observation was found in patients those were suffering with Cervicitis & Hyperplasia (55%) and Dyplasia / CIN (38%). So this table indicates that early marriage particularly below 20 yrs. make the women very much vulnerable for the development of different cervical lesion. This observation was also supported by Kushtagi*et al* (2002) [14], Sherwani RK *et al* (2007) [15] and MS Bal*et al* (2012) [16] who demonstrated that the severity of underlying CIN increased with increase in the duration of marital life and hence the increase in the duration of exposure to sexual intercourse.

The table-6 depicted that out of total cases 12% cases were nulliparous and 88% were parous. Among the parous majority were from multiparous (28%) followed by Triparous (24%). Amongst the nulliparous majority were from Cervicitis followed by Cervicitis & Hyperplasia. Similar observation was observed among the multiparous and Triparous. Thus maximum incidence of different cervical lesion is found in cases of high parity. Both Kushtagi P *et al* (2002) [14] andVaidya*et al* (2003) [17] also showed that the prevalence of CIN was significantly higher in parity of more than 2 and parity more than 4 respectively. The correlation of multiparity and cervical neoplasia may be attributed to hormonal and nutritional changes that occur in pregnancy, immuno suppression during pregnancy, and cervical trauma during vaginal delivery [18].

The Table 7 showed that the epithelial hyperplasia was more common (i.e. 68.6%) than Adenomatous hyperplasia (i.e. 31.3%). Amongst the epithelial hyperplasia, the majority of cases were of moderate and mild hyperplasia in the age gr. of 21 to 30 years

followed by age group of 41-50 years. Similar findings were found in the patients those with adenomous hyperplasia.

Conclusion

Cervical erosion is a very common finding on per speculum examination. It can be the outcome of infection or pre-neoplastic conditions. From our study, we conclude that all women with symptoms and presence ofcervical erosions on examination should undergo colposcopic examination and guided biopsies to detect more number of cases in premalignant state and early cervical cancers. There is good correlation between colposcopy and histopathology and both are complimentary to each other.

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Conflict of Interest

None declared

Ethical Approval

The study was approved by the Institutional Ethics Committee

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