



Histomorphological study of cervical lesions in a tertiary care Centre of kumaon region: A 5 year retrospective study

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Abstract

Introduction: *Non- neoplastic and neoplastic cervical lesions are seen among women of all age groups but are more common in sexually active women. In developing countries, there is a lack of effective screening programs and vaccination due to which there is increased risk of cervical cancer.*

Methods: *A retrospective histopathological analysis of 690 cases of cervical lesions were undertaken in the department of pathology over a period of 5 year at Government Medical College haldwani, Uttarakhand.*

Results: *Out of 690 cases, Non-neoplastic lesion were seen in 570 cases (82.4%) while neoplastic lesion were seen in 120 cases (17.6%). The most commonly affected age group was 41-50 yr. Among non-neoplastic lesion most common histological finding was chronic cervicitis in premenopausal age group and squamous metaplasia in postmenopausal age group. Among neoplastic lesion, non-Keratinising squamous cell carcinoma was the most common finding in both premenopausal and postmenopausal age group followed by keratinising squamous cell carcinoma.*

Keywords: *Cervicitis, Squamous metaplasia.*

Introduction

Non- neoplastic and neoplastic cervical lesions are seen among women of all age groups but are more common in sexually active women. Majority of non- neoplastic lesions are inflammatory in nature.^[1]

In the urban areas, cancer of cervix accounts for 40% of cancer while in rural areas, it accounts for 65% of cancer due to inaccessibility of health care services and financial insufficiency in rural areas.

^[2] The incidence of cervical cancer rises in 30-34 years of age and peaks at 55-65 years especially from lower socioeconomic status.^[3]

Human Papillomavirus (HPV) being the most common cause of cervical cancer affecting women of different age groups and has a prevalence of about 20% in young sexually active women.^[4]

In developing countries, there is a lack of HPV vaccination and effective screening programs for cervical cancer. Limited success of such screening programmes in developing countries had led to increased risk of cervical cancer. Whereas, in developed countries due to introduction of large-scale cytologic testing there has been a major decline in cervical-cancer mortality.

The aim of the present study is to evaluate frequency of non-neoplastic and neoplastic cervical lesion in kumaon region. So, that cervical screening programmes in this region for early detection of malignancy can be carried out.

Materials and Methods

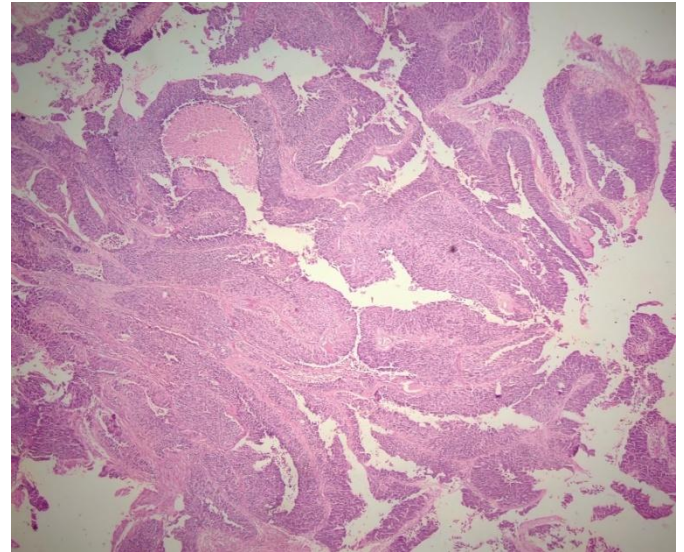
A retrospective histopathological analysis of 690 cases of cervical lesions was undertaken in the department of pathology over a period of 5 year at Government Medical College haldwani, Uttarakhand. The material for the study consists of both cervical punch biopsy and cervix from hysterectomy specimens. Specimens were sent to the pathology department for histopathological examination in 10 percent formalin. They were studied grossly and multiple sections taken. The specimens were processed in automated tissue processor. Four to six-micron thick paraffin embedded sections were taken and stained by haematoxylin and eosin. The slides were then examined and reported.

Results

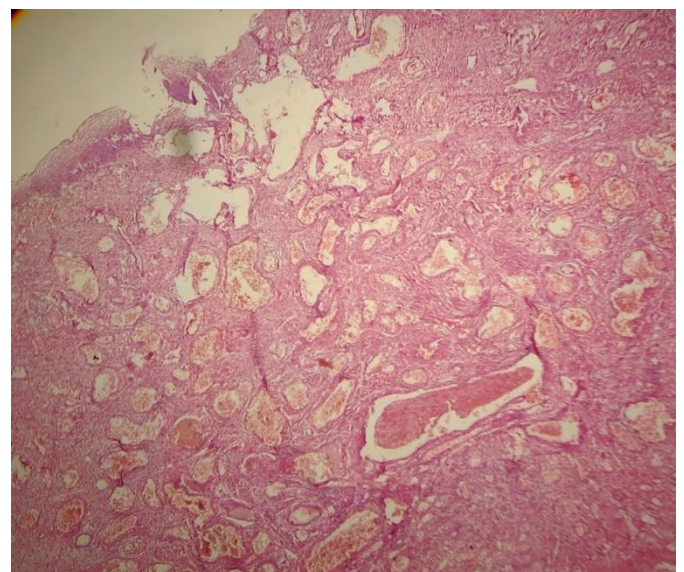
In this 5year study, a total 690 cases of non-neoplastic and neoplastic lesions from cervical specimens were analysed. The age of patient in this study ranges from 21-90 years with maximum number of cases in age group 41 to 50 years (Table 1). Of the 690 cases, non-neoplastic lesions constituted 82.4% (570 cases) and neoplastic lesion constituted 17.6% (120 cases). Non - neoplastic lesions were more common in the age group of 41-50 yr (46%) (Table 2). Among non-neoplastic lesion most common histological finding was chronic cervicitis in premenopausal age group and squamous metaplasia in postmenopausal age group (Table4).

Among neoplastic lesions most common age group affected was 41-50 yr (30%). Non-Keratinising squamous cell carcinoma was the most common finding in both premenopausal and postmenopausal age group followed by keratinising squamous cell carcinoma. While high-grade dysplasia was seen in all age group

included in our study,10 cases of cervical polyp, one case of cervical fibroid and one case of angiokeratoma was seen in 41-50 yrs of age. One case each of transitional squamous cell carcinoma, papillary squamous cell carcinoma, adenocarcinoma with squamoid differentiation and poorly differentiated carcinoma was seen among postmenopausal age group. In our study, one rare case of cavernous hemangioma was also seen in age group 21- 30 yr. (Table 5)



Caption 1: Papillary squamous cell carcinoma – showing finger like projections with fibrovascular cores. Overlying squamous epithelium is malignant. (H&E 10X)



Caption 2: Cavernous hemangioma: shows large cystically dilated vessels with thin walls. (H&E 10X)

Table 1: Distribution of cases among different age group

AGE (YEARS)	NO. OF CASES (N=690)
21-30	18(2%)
31-40	171(25%)
41-50	299(43%)
51-60	122(18%)
61-70	53(8%)
71-80	22(3%)
81-90	5(1%)

Table 2: Distribution of non – neoplastic and neoplastic lesion among different age group.

AGE (YEARS)	NON-NEOPLASTIC	NEOPLASTIC
21-30	15(2%)	3(2%)
31-40	150(26%)	21(17%)
41-50	263(46%)	36(30%)
51-60	90(16%)	32(27%)
61-70	38(7%)	15(13%)
71-80	11(2%)	11(9%)
81-90	3(1%)	2(2%)
TOTAL	570	120

Table 3: Distribution of Cervical Lesions.

S.no.	Diagnosis	No.of cases
1.	Chronic cervicitis	285
2.	Squamous metaplasia	283
3.	Cavernous hemangioma	1
4.	Angiokeratoma	1
5.	Cervical polyp	19
6.	High grade dysplasia	15
7.	Keratinizing squamous cell carcinoma	27
8.	Non-Keratinizing squamous cell carcinoma	54
9.	Transitional squamous cell carcinoma	1
10.	Papillary squamous cell carcinoma	2
11.	Adenocarcinoma with squamous differentiation	1
12.	Poorly differentiated carcinoma	1

Table 4: Age Distribution of Non- Neoplastic Cervical Lesions

Diagnosis	21-30YR	31-40YR	41-50YR	51-60YR	61-70YR	71-80YR	81-90YR
Chronic cervicitis	9	72	136	44	18	4	2
Squamous metaplasia	5	78	126	46	20	7	1

Table 5: Age Distribution of Neoplastic Cervical Lesions.

Diagnosis	21-30YR	31-40YR	41-50YR	51-60YR	61-70YR	71-80YR	81-90YR
Cervical polyp	-	3	10	4	1	1	-
High grade dysplasia	1	3	3	4	5	-	-
Keratinizing squamous cell carcinoma	-	6	7	6	3	5	-
Non-Keratinizing squamous cell carcinoma	2	8	15	17	7	4	1
Transitional squamous cell carcinoma	-	-	1	-	-	-	-
Papillary squamous cell carcinoma	-	1	-	1	-	-	-
Adenocarcinoma with squamous differentiation	-	-	-	-	-	-	1
Poorly differentiated carcinoma	-	-	-	-	-	1	-
Cavernous hemangioma	1	-	-	-	-	-	-
Angiokeratoma	-	-	1	-	-	-	-

Discussion

Out of 690 cases, 570 (82.6%) cases were benign and 120 (17.4%) cases were malignant lesions. The ratio of benign to malignant accounted for 4.7:1. This result clearly shows that benign lesions were more common than their malignant counterparts in kumaon region which is similar to study done by Ozumba et al. where benign lesions were more common than malignant lesions.^[4,5]

The peak age range of non- neoplastic cervical lesions was 41- 50 years accounting for 43%. This finding is similar to previous reports from Kumar et al and Poste et al^[6,7] where peak age of 40- 49 years accounted for 76.7%. Our findings have shown that among the non- neoplastic cervical lesions, 41.3% were associated with features of cervicitis. Thus, it constitutes the highest percentage of non- neoplastic cervical

lesions in our region. This report again is similar to previous studies done by Poste el and Nwachokor et al where cervicitis accounted for 38% and 59.8% respectively.^[7,1] As major population included in this study is from Kumaoni hilly area, therefore, lack of awareness, cultural barriers, economic factors limitations of kumaoniwomens in obtaining health services and also expressing their needs for reproductive health leads to increase risk of chronic cervicitis from early age group.

Chronic nonspecific cervicitis with squamous metaplasia was found in 126 cases in this study in the age group of 41–50 years (Table no.3), which is contrary to the study done by Jyothi et al in which 30-40yr age group was the most common.^[8]

Due to high risk factors like early child marriage, multigravida status, early age at first pregnancy in this socioeconomic class of women results into further progression of disease leading to squamous metaplasia.

Our findings showed that endocervical polyps accounted for 2.7% of non- neoplastic cervical lesions and the peak age range was in the 4th decade. This is similar to study done by Pallipady et al, Jones et al and Nigatu et al where cervical polyps were more commonly seen in the reproductive age especially after 40 years of age.^[9,10,11]

High grade dysplasia was seen in the age group of 21-70 yr which accounted for 2.2%(15cases). As the disease is following its natural course leading to high grade dysplasia so awareness to cervical screening programme from early age group becomes necessary to prevent early onset of disease.

In this study, squamous-cell carcinoma was the predominant histological type of cervical malignancy constituting 12.4% (86 cases) and the incidence was highest in the age group of

51–80 years which is contrary to study done by Reddy et al in which most common age group was 41-60yr^[12]. High risk of cancer in later age group among kumaoniwomens is due to lack of both

awareness about the disease and access to prevention and treatment facilities.

In rural population, reliance on indigenous cures and traditional reluctance among many females to seek medical assistance from a gynaecologist had also heighten womens vulnerability to infection and progression of disease to cancer. Even pap smear programs have proved to be difficult to implement and costly to run in rural areas due to which cases of unhealthy cervix is increasing in this region.

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