

## Analysis of Abnormal Epithelial Lesions in Cervical Pap Smears in Eastern Region of Nepal

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### Original Research Article

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#### Article History

Received: 13.06.2018

Accepted: 19.06.2018

Published: 30.06.2018

#### DOI:

10.21276/sjpm.2018.3.6.1



**Abstract:** Background: Like in other developing countries, cancer of cervix is one of the leading malignancies in women in Nepal. In Nepal cervical pap-smear screening is not done by most of woman due to lack of awareness. The objective of this study is to find the prevalence of abnormal cervical epithelial lesions. This was a retrospective study of 396 conventional cervical Pap smears reported from the Department of Pathology, Birat Medical College in Biratnagar, Nepal. The time period was from March 2016 to March 2018. We used Bethesda system to report our all our slides. We used the pap stain to use the slide. All the case was reviewed by consultant pathologist of Birat medical college. Total cases were 396 in two year period in which 396 cases were satisfactory for evaluation and 20 cases were unsatisfactory for evaluation which is due to thick neutrophilic exudates, mucous, degenerative cells and hemorrhage. Out of 396 cases 7 cases is ASCUS that is 1.76%, 4 cases is LSIL that is 1.01%, 3 cases is HSIL that is 0.75%, 1 cases is SCC that is 0.25%. Negative for intraepithelial lesion and malignancy is 381 that is 98.21%

**Keywords:** Pap smear, Bethesda system, Cancer cervix.

### INTRODUCTION

Carcinoma of the cervix is the most common cause of the death in Nepal. Cervical carcinoma does not develop suddenly from normal epithelium but is presented by a spectrum of intraepithelial neoplastic changes that are precancerous lesion and were termed as cervical intraepithelial neoplasia (CIN). It can be prevented if we can do pap smear test in regular basis in developing countries like Nepal [1,2].

According to Bethesda system, pervasive cervical lesions are classified into two groups. Low-grade Squamous Intraepithelial Lesion (LSIL) and High-grade Squamous Intraepithelial Lesion (HSIL) [3]. Cancer of the cervix can be prevented by diagnosis it at the pre invasive stage. The role of the Pap smear as a cancer screening method for the cervix has been used by several studies in the last 50 years. The method has resulted in a decrease in the incidence and mortality rates of cervical cancer in the developed world. The success of Pap smear cytology in North America, Europe and Scandinavian countries has been the result of organized Pap smear screening program.

Nationwide screening programs were introduced in different countries and they demonstrated the efficacy of cytology screening programs. The International Agency for Research on Cancer (IARC) assessed the potential reduction in cumulative incidence rates for cancer of cervix with different frequencies. The incidence rate of the 5 and 10 year annual screening resulted in a reduction of 84% and 64% respectively [4]. Based on this data, developed nations recommend a frequent Pap screening program. The mortality rate of cervical cancer can be significantly reduced if a woman

is screened once when she is between the ages of 40-45 years. According to a regional study, cancer of cervix makes up about 85% of all gynecologic malignancies in Nepal [5]. There is a need for well-organized screening and educational programs for the control and prevention of cervical cancer in this country. The objective of this study was to determine the prevalence of abnormal cervical epithelial lesions.

We will do this research in Birat medical college teaching hospital from March 2016 to March 2018.

### MATERIALS AND METHODS

This was a retrospective study of all cervical Pap smearcases reported at the Department of Pathology; Birat Medical College Teaching Hospital for a period of 24 months from March 2016 to March 2018. The study was done after approval obtained from Birat medical college and teaching hospitals. The clinical history was got from requisition forms of the patients and the Performa was filled. The data was entered into the Microsoft office excel and analyzed using statistical package for social science (SPSS 17.0). We reported all the case using 2014 Bethesda

system in conventional cervical pap smear. We used only new cases of cervical Pap smear which is collected in 2 years of time. All the case was reviewed by all the pathologist of Birat Medical Teaching Hospital.

## RESULTS

A total of 396 cases were reported during the above mentioned period. Twenty-eight (7.14%) smears were found to be unsatisfactory for evaluation known. A total of 396 cases were analyzed (Table 1 and 2). The age of the patients ranged from 20 to 80 years with an average age of 35.5 years.

**Table-1: Age-wise distribution of total number of patients**

Age (years)	Number of patients	percentage
20 and below	16	4.04%
21-30	85	21.46%
31-40	183	46.21%
41-50	80	20.20%
51-60	22	5.55%
61-70	06	1.51%
>70	04	1.01%

Total 396 100%

**Table-2 Findings Abnormal findings in papsmear**

Diagnosis	Number of cases	percentage
ASCUS	07	1.76%
LSIL	04	1.01%
HSIL	03	0.75%
SCC	01	0.25%
NIL	381	96.21%

NIL-Negative for intraepithelial malignancy

The negative of intraepithelial and malignancy mainly consists of non-specific inflammatory smear followed by bacterial vagenosis, candidiasia and trichomonas infection.

## DISCUSSION

The incidence of cervical cancer has decreased these days by 50% in the past 30 years because of frequently screening with cervical cytology. These days the incidence of cancer by WHO IS 24.2 per 100,000. The incidence of cervical cancer in Nepal is 21, 00 cases everywhere. The research showed that the population which is screened with Pap test has significant decreased in carcinoma of cervix. In Nepal it is recommended that people should do Pap smear test after 21 years by the preventive point of view. In our studies between 21 to 30 years population the percentage of Pap smear test is almost 22.22%. This means peoples are doing Pap test these days [6, 7]. Other studies showed like showed the incidence of doing Pap test in young women is decreased [8]. In our studies there is 14 cases that is 3.78%.

The percentage of abnormal Pap smear is 2.3% to 6.6%, in the US, from 1.6% to 7.9% in the Middle East, and 1.87 to 5.9% in India. Low incidence of 1(0.25%) cases of SCC is due lesion being find in younger age group. Similar findings are finding in Saudi Arabia [9]. The other region for low rate of malignancy is because frequency of doing cervical Pap smear is increased these days. The other region may be

due to small sample size. One study is done on maternity hospital of Nepal also showed low epithelial lesion although the sample size was big. A study carried out by Tribhuvan University showed carcinoma of cervix is 3rd. common cancers in Nepal and most common gynecological malignancy [10].

The study in a cancer hospital in Chitwan, Nepal carcinoma of cervix was the most common Gynecologic malignancy [11]. The HSIL was reported as high as 3.7% in Zimbabwe and China. 19, 20. Our study showed that the HSIL is the second most common of all the abnormal epithelial lesions.

This study shows that the incidence of high grade epithelial lesion increases with advancing age. Cancer of the uterine cervix should get priority in terms of control programs through mass screening in Nepal and other developing countries. In our studies all age group are found abnormal Pap smear. According to WHO According to WHO recommendations, screening at 45 years of age is the most correct approach, which could detect approximately 20% of total cervical cancers [12]. The American Cancer control Program and the IARC have suggested similar or slightly modified screening programs.

## CONCLUSION

During the period of study years we have reported 396 cases out of which we find diagnosis of ASCUS in 7 cases that is 1.76%, LSIL 4 cases that is

1.01%, HSIL 3 cases that is 0.75% and SCC that is 0.25%. Cervical cancer is one of the most common malignancies in the women of Nepal. Pap smear test is useful screening test for detect of abnormal epithelial resion. In Nepal and other developing countries government should make rule to do Pap smear test after 21 years in regular basis.

#### **ACKNOWLEDGEMENT**

I wound like thanks all the gynecologist of Brat medical college teaching hospital, Tankisinwari, Morang, Nepal for the providing history and any quarries from us.

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