

## Original article

# Histopathological study of age specific incidence of various pre malignant and malignant cervical lesions at tertiary care centre

Dr Dimple Mehta<sup>1</sup>, Dr Jignasa Ghetiya<sup>2</sup>, Dr. P.M.Santwani<sup>3</sup>

Assistant Professor<sup>1</sup>, 2<sup>nd</sup> year resident<sup>2</sup>, Professor & Head of Department<sup>3</sup>,  
Shree M. P. Shah Government Medical College, Jamnagar, Gujarat, India

**Corresponding author:** Dr Dimple Mehta

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### Abstract:

**Background:** We know that, in this modern era incidence of cancer is increasing day by day. Incidence of cancer is increasing more in women than in men. Women may acquire any type of cancer during her entire life time, mostly because she has to pass through various endocrinal changes. Breast cancer is the most common cancer in women which is followed by genital tract malignancies. Among genital tract organs in female, cervix is more commonly involved, followed by ovarian and endometrial cancers. The primary underlying cause of cervical cancer is infection with Human Papilloma Virus (HPV), a common virus that is sexually transmitted.

**Aims & objectives:** To determine the type & frequency of various types of cervical cancers and the pattern of cancer with advancing age.

**Methods:** This study is conducted over two years period, from September 2013 to August 2015 in the Department of Pathology of our institute.

**Results:** Total numbers of cases are 143. In this study mean age is 50 +/- 13 years. Two age groups are equally affected, 31-40 years & 41-50 years. Out of total 143 cases, 82 cases [57%] having premalignant lesions and 61 cases [43%] having malignant lesions. In premalignant lesions, CIN -1 covers major portion. In cases of malignant lesions, squamous cell carcinoma is the commonest variety, followed by large cell carcinoma.

**Conclusion:** Premalignant lesions are more common than malignant. Out of premalignant lesion CIN -1 is more common. Out of malignant lesion squamous cell carcinoma is more common. Keratinized squamous cell are more common than nonkeratinizing one.

**Key words:** Cervical cancers, Cervical Intraepithelial Neoplasms (CIN)

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### Introduction:

Genital tract cancers are the second most common cancers in women after breast cancer.<sup>[1][2]</sup> Out of genital tract cancer, cervical cancer is the most common, followed by uterine and ovarian cancer. This study is conducted to know age specific incidence of various types of premalignant & malignant lesions of cervix.

Approximately 70% of cervical cancers occur in developing countries. In low income countries it is the most common cause of cancer death. In developed countries, the widespread use of cervical screening programme has dramatically reduced rates of cervical cancer. Early screening of women by PAP smear & close follow up and treatment may help to decrease cancer rate & improve survival. Uterine cervix is anatomically divided into two parts.

Exocervix which is lined by nonkeratinized squamous epithelium and Endocervix which is lined by columnar epithelium. The junction of squamous & columnar epithelium is known as transformation zone. Squamous intraepithelial lesions & most of cervical cancers are arise from this transformation zone.<sup>[3]</sup>

Early features of cervical cancer are vaginal bleeding, post coital spotting, painful intercourse and foul smelling yellowish discharge. Classical risk factors for cervical cancers are early age of sexual contact, multiple sex partners, smoking, sexually transmitted diseases (STDs), immune compromised state, low socio-economic status and lastly Human Papilloma Virus(HPV) infection type 16 and 18 – which is main risk factor. Estimated that 80% of men and women will be exposed to virus after the age of 50 years.

Out of various infectious agents human papilloma virus [HPV] is the most common infectious agent. A long term infection by high grade HPV may result in premalignant or malignant condition of cervix.

**Material and methods :**

This study was conducted in department of pathology of our institute. This retrospective study is conducted

from September 2013 to August 2015. All women admitted for various gynecological problems at obstetric&gynecology department of our institutewere included in this study. Premalignant and malignant lesions are included, while Inflammatory and benign lesion, confirmed histopathologically were excludedfrom this study.Total 143 cases were obtained.

Sampling :The study was conducted on 143 cases, received either as cervical biopsy or in the form of resected specimens, as a part of total abdominal hysterectomy.

All specimens were fixed in 10% buffered formalin overnight. Gross examination was done and adequate sections were taken from all the representative areas. Special emphasis was given on shiny, white keratinized areas as well as necrotic areas over surface of cervix. All the material received as cervical biopsy had been processed. All the sections were routinely processed under standardized conditions for paraffinembedding and then sections were cut into 5 micron or thinner as needed and stained with Hematoxylineand Eosin [H & E] stain using standard procedure.

**Result and discussion:**

**Table 1.**

Age Group	Pre- Malignant lesions	Malignant lesions	Total Frequency	Percent
21-30	4	3	7	4.9
31-40	26	11	37	25.9
41-50	25	12	37	25.9
51-60	16	20	36	25.2
61-70	9	11	20	14.0
71-80	2	4	6	4.2
<b>Total</b>	<b>82</b>	<b>61</b>	<b>143</b>	<b>100.0</b>

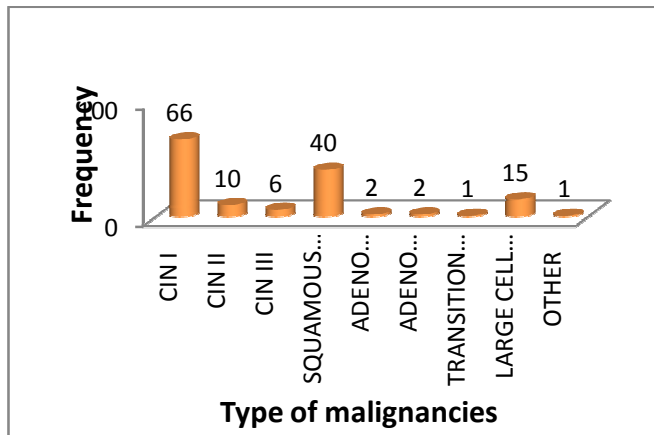
Maximum numbers of premalignant as well as malignant lesions are seen in the age between 31 to 60 years. Mean age of presentation in this study is 50±13 years.

**Table 2.**

Diagnosis	Frequency	Percent
CIN I	66	46.2
CIN II	10	7.0
CIN III	6	4.2
SQUAMOUS CELL CARCINOMA	40	28.0
ADENO CARCINOMA	2	1.4
ADENO SQUAMOUS CELL CARCINOMA	2	1.4
TRANSITIONAL CELL CARCINOMA	1	0.7
LARGE CELL CARCINOMA	15	10.5
OTHER	1	0.7
<b>Total</b>	<b>143</b>	<b>100.0</b>

In case of CINs, CIN I accounts for major portion 66 cases (46.2%) followed by CIN II – 10 cases (7%) and CIN III – 6 cases (4.2%). In malignant group, squamous cell carcinoma accounts for largest group – 40 cases (28%), followed by large cell carcinoma – 15

cases (10.5%), constitutes second large group. There are 2cases (1.4%) of adenocarcinomas. Frequency of adeno squamous carcinoma is same as that of adenocarcinoma in this study. Single case(0.7%) of large cell carcinoma is noted in this study.



**Figure 1.**

**Table 3.**

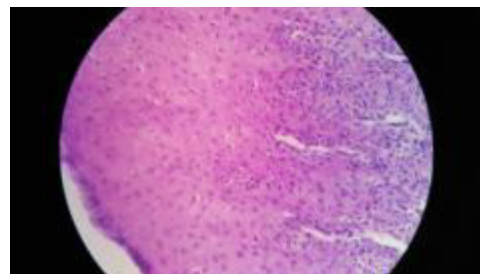
AGE GROUP	CIN I	CIN II	CIN III	SQUAMOUS CELL CARCINOMA	ADENO CARCINOMA	ADENO SQUAMOUS CELL CARCINOMA	TRANSITIONAL CELL CARCINOMA	LARGE CELL CARCINOMA	OTHER	Total
21-30	3	1	0	2	0	0	0	1	0	7
31-40	22	3	1	7	0	1	1	2	0	37
41-50	21	0	4	7	1	0	0	3	1	37
51-60	11	4	1	13	1	1	0	5	0	36
61-70	7	2	0	7	0	0	0	4	0	20
71-80	2	0	0	4	0	0	0	0	0	6
<b>TOTAL</b>	<b>66</b>	<b>10</b>	<b>6</b>	<b>40</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>15</b>	<b>1</b>	<b>143</b>

**Summary and Conclusion**

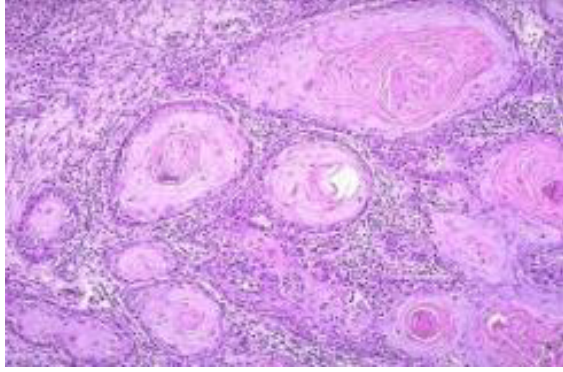
This study is conducted over period of two years, September 2013 to august 2015 .Total numbers of cases are 143. In this study mean age of patients is 50 +/- 13 years [Table 1] . Two age groups are equally affected, 31-40 years & 41 -50 years. 82cases [57%] having premalignant lesion [Table 2] and 61cases [43%] having malignant lesion [Table 2]. Out of 82 premalignant lesions [Figure 1] , CIN -1[Figure 2] accounts for 66cases [46.2 %], CIN -2 accounts for 10 cases[7 %] and CIN -3 accounts for 6 cases [4.2%]. In cases of malignant lesions [Table 2], squamous cell carcinomas [Figure 3] form largest group and account for 44 cases [28%] , followed by large cell carcinomas, which accounts for 15 cases [10.5%], adenocarcinomas for 2cases [1.4%], adenosquamous carcinomas for 2 cases [1.4%],transitional carcinoma for 1case [0.7 %][Figure 4] and basaloid carcinoma for 1 case[0.7

%].Among carcinomas, 41cases [73 %] are keratinized & 15 cases [27 %] are nonkeratinized.

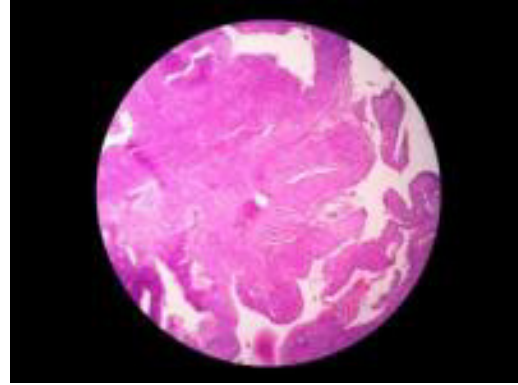
Premalignant lesion are more common than malignant. Out of premalignant lesion CIN -1 is more common. Out of malignant lesion squamous cell carcinoma is more common. Keratinized squamous cell are more common than nonkeratinized. So, considering increasing incidences of cervical cancer in middle age, early screening by PAP smear for detection of malignancy is preferable.



**Figure 2. CIN I (H&E , 400X)**



**Figure 3.** Keratinizing Squamous cell Carcinoma.( H&E , 400X)



**Figure 4.** Transitional Cell Carcinoma variant of cervical malignancy.( H&E , 100X)

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