Original Research PaperPathologyVIERINE CERVICAL BIOPSY PATTERNS IN FEMALES ATTENDING
R.I.M.S, RANCHI: A STUDY OF 192 CASES WITH REVIEW OF
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ABSTRACT

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Background: The accessibility of the uterine cervix to direct examination makes it the object of intensive and large scale study.

Aims & objectives: To study the various findings in cervical biopsy specimens received in pathology department of R.I.M.S, Ranchi, Jharkhand over a period of 1 year.

Material & methods: Our study composed of evaluation of cervical biopsy specimens received from August 2016 to July 2017. A total of 192 cervical biopsy specimens were evaluated.

<u>Results</u>: Out of 192 cervical biopsies examined, the most common diagnosis was inflammatory lesions of the cervix, found in 47% cases. 27% cases were found malignant on histopathological examination. The most common histological type was invasive squamous cell carcinoma.

<u>Conclusion:</u> All uterine cervical biopsy specimens must be studied meticulously regardless of the preoperative diagnosis. Carcinoma cervix has a prolonged premalignant phase & this fact makes invasive carcinoma cervix a preventable condition.

KEYWORDS : Uterine cervix, biopsy, histopathology

1. INTRODUCTION:

The cervix is the lower portion of the uterus which connects this organ to the vagina through the endocervical canal. The outer surface of the cervix that protrudes into the vagina, is called the ectocervix & the portion related to the endocervical canal corresponds to the endocervix.^[11] Most of the ectocervix is lined by nonkeratinizing squamous epithelium ^[21] & the glandular mucosa of endocervix is formed by a layer of columnar mucus secreting cells.^[31] The area where the squamous and glandular epithelium meet, is known as squamocolumnar junction or the transformation zone. Various inflammatory as well as infectious lesions are common in uterine cervix due to vulnerability to sexual trauma and being an easy access to various infections.

Cervical intraepithelial neoplasia (CIN), recently known as squamous intraepithelial lesion (SIL), is a potentially premalignant condition ^[4], most commonly occurs on the cervix at the squamocolumnar junction. Human papilloma viruses (specially HPV 16,18,31,33) play a critical role in the pathogenesis of most cervical cancers and their precursor lesions. ^[5] Other etiological factors may include multiple sexual partners, multiparous women, lower socioeconomic group, smoking and history of venereal disease ^[6]. Cervical cancer is the fourth most common cancer among women, and the seventh overall in the world. Of the 528,000 new cases of carcinoma cervix detected globally in 2012, developing countries accounted to about 85% of its global burden.^[7]

2. AIMS AND OBJECTIVES:

To evaluate the clinico histopathological patterns of uterine cervical biopsy specimens.

3. MATERIALS AND METHODS:

The present study is a prospective study done over a period of 1 year, carried out in the department of Pathology in Rajendra Institute of Medical Sciences, Ranchi. Our study composed of evaluation of cervical biopsy specimens received from August 2016 to July 2017. The biopsy specimens were processed according to College of American Pathologists (CAP)guidelines. ^(B) A total of 192 cervical biopsy specimens were examined.

4. RESULTS:



Fig 1: Bar graph showing age distribution of the study population.





Table	no.	1:	Distribution	of	histopathological	diagnosis
according to age.						

Diagnosis	15-30	31-45	46-60	60	Total	%
	years.	years	years.	years.		
Inflammatory	13	40	26	11	90	47 %
Benign	2	3	1	2	8	4 %
SIL	2	30	6	0	38	20 %
Malignancy	0	20	26	6	52	27%
Unsatisfactory	0	2	1	1	04	2 %
Total	17	95	60	20	192	100 %

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Fig 3: Pie chart showing frequency of symptoms among study population.

Table no.2: Distribution of squamous intraepithelial lesion (SIL) / Cervical intraepithelial lesion (CIN).

SIL / CIN TYPES	TOTAL	PERCENTAGE
LSIL / CIN 1 / Mild dysplasia	12	31.57 %
HSIL / CIN 2 / Moderate dysplasia	12	31.57 %
HSIL / CIN 3 / Severe dysplasia	14	36.86 %
TOTAL	38	100 %



Fig 4: Horizontal Bar Chart showing distribution of malignant lesions of cervix.

Table no 3: Distribution of squamous cell carcinoma (SCC) according to grades of differentiation.

Grading of SCC	Number of cases	Percentage
Well differentiated SCC	9	18 %
Moderately differentiated SCC	29	58 %
Poorly differentiated SCC	12	24%
Total	50	100%



Fig 5: Low grade Squamous intraepithelial lesion (LSIL). (H & E;40X).



Fig 6: Keratinizing squamous cell carcinoma cervix (H & E;40X).



Fig 7: Non keratinizing squamous cell carcinoma cervix (H & E;40X).



Fig 8: Adenocarcinoma cervix (HPE;40 X).

5. DISCUSSION:

In our study, majority of uterine cervical biopsies revealed inflammatory lesions (47%). Chronic nonspecific cervicitis was the commonest inflammatory lesion observed. Most of the cases were in 31 – 45 years age group. In benign lesions 2 cases of endocervical polyp, 1 case of cervical leiomyoma & 5 cases of squamous metaplasia were found. Squamous intraepithelial lesion (SIL) was found in 20% of the study population (38 out of 192). In recent recommendations by Bethesda, low-grade squamous intraepithelial lesion (LSIL) is the term used for CIN 1 / mild dysplasia (i.e. the undifferentiated cells are confined to the lower $1/3^{rd}$ of the epithelium) and high-grade squamous intraepithelial lesion (HSIL) for CIN 2 / moderate dysplasia (i.e. undifferentiated cells up to lower 2/3rd of epithelium) & CIN3 / severe dysplasia (i.e. greater than 2/3rd of the epithelial thickness is replaced by undifferentiated cells) [9,10] These terminologies were applied to place emphasis on the spectrum of abnormality in these lesions, & to help standardized treatment protocols.

In the present study, carcinoma cervix was found in 27% of cases (52 out of 192). In a study by Solapurkar et al ^[11] (1985), occurrence of cervical malignancy was 33.8% (488 out of 1472 cases). Squamous cell carcinoma was the most common invasive cervical carcinoma observed in our study, accounted for 96.1% (50 out of 52 cases) of the total invasive carcinomas. This is comparable with the study done by Solapurkar et al ^[11], Poste et al ^[12], Jyothi et al ^[13]. The other 2 cases were of adenocarcinoma cervix. Carcinoma cervix was most common in the age group of 46 – 60 years. N Jeebun et al (2005) ^[14] documented the occurrence of cervical cancer was common in the age range of 50-59 years. Among the 50 cases of invasive squamous cell carcinoma (SCC), 21 cases were of keratinizing SCC and the remaining 29 cases were of non keratinizing SCC.

Keratinizing carcinomas are characterized by the presence of welldifferentiated squamous cells that are arranged in nests or cords that vary greatly in size and configuration. The defining feature of keratinizing carcinoma is the presence of keratin pearls within the epithelium, and the presence of a single keratin pearl is sufficient to classify a tumor as a keratinizing carcinoma. Non-keratinizing squamous cell carcinoma is characterized by nests of neoplastic squamous cells that frequently undergo individual cell keratinization but, by definition, do not form keratin pearls ^[15]. Non keratinizing type was the most common type in our study, which correlated with studies done by Misra et al ^[16], Sneha Saini et al ^[17] The most commonly used grading system for squamous cell carcinoma is a modification of the original System proposed by Broder's in 1920^[18]. In well-differentiated (grade 1) tumors, there is abundant keratin deposited as keratin pearls in the centre of neoplastic epithelial nests. In moderately differentiated (grade 2) SCC, the neoplastic cells are more pleomorphic with large irregular nuclei & less abundant cytoplasm. Poorly differentiated (grade 3) SCCs are generally composed of cells with hyperchromatic oval nuclei & scant indistinct cytoplasm^[16]. In our study, grade 2 was most common.

6. CONCLUSION:

Histopathological interpretation of the cervical biopsy specimens along with clinical correlation is very important for definitive diagnosis in diseases of the cervix. Diagnostic interpretation of a cervical biopsy is a key element in the decision to treat or not to treat

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a woman with abnormal screening test. Carcinoma cervix has a prolonged premalignant phase and this fact makes invasive carcinoma cervix a preventable condition. So every cervical biopsy specimen should be meticulously examined to diagnose the disease as early as possible, when it is in a benign state or rather inflammatory phase (premalignant stage) & a sincere approach should be undertaken in treating the same. Also adequate amount of awareness should be instituted regarding cervical screening programmes & vaccination against HPVs.

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