



## CORRELATION OF PAP SMEAR WITH HISTOPATHOLOGICAL FINDINGS IN MALIGNANT AND NON MALIGNANT LESION OF CERVIX

### Gynaecology

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### ABSTRACT

Cervical carcinoma is major health problem worldwide. Conventional cervical cytology is the most widely used cervical cancer screening test in the world.

**Aim and Objective:** To classify cervical lesions into malignant & benign groups and to correlate the cytological with histopathological findings.

**MATERIAL AND METHOD-** This is a prospective cross-sectional study done in NMCH, Patna, between October 2015 to March 2017, Department of Obstetrics and Gynaecology. During the period, all the samples of Pap smear taken in Gynae OPD were studied. 200 cases who had abnormality in Pap smear and undergone both Pap smear and cervical biopsy (including hysterectomy sample) were included in the study. The cytological interpretation of the smears was made according to the new 2001 Bethesda system.

**RESULT-** In my study most of the women (40%) were 31-40 years of age followed by 41-50 years of age (38%). Mean age was 41 years. Unsatisfactory smear was found in 4% cases, inflammatory smear in 59.5 cases, ASCUS in 5% cases, LSIL in 9% cases, HSIL in 10% cases, frank malignancy in 12.5% cases. In biopsy report 5.5% of cases had normal histology report. In 58.5% cases infection (chronic cervicitis) was present. Carcinoma reported in 22.5% cases, CIN 1 in 3.5%, CIN 2 in 4%, CIN 3 in 3% cases and benign tumor in 3% cases. Pap smear shown good correlation with histopathology report. **Conclusion-** Pap smear is cheap, simple, non invasive and effective method for early detection of premalignant and malignant lesion of cervix and it shows good correlation with histopathology report.

### KEYWORDS

### INTRODUCTION

Cervical cancer is the most common cause of cancer related death in women, and it is the second most common cancer after the breast cancer worldwide. In developing countries, cervical cancer comprises 90% of all genital malignancies. Cervical carcinoma has long latent phase during which disease can be identified and treated. Premalignant lesions of cervix commonly involve transformation zone of the uterine cervix. Conventional cervical cytology (Pap smear test) is a widely used test for cervical cancer screening. It is cheap, non invasive and effective method. But Pap alone cannot determine all lesions and the location of cervical abnormality. Cervical biopsy remains the 'gold standard' for the diagnosis of cervical malignant, premalignant and non malignant lesion.

The objectives of the study were to find out the changes of cervical cytology by Pap smear, to classify cervical lesions into malignant and benign groups on cytological and histopathological basis and to correlate the changes observed in cervical cytology with cervical biopsy.

### METHOD-

This is a prospective cross-sectional study done in NMCH, Patna between October 2015 to March 2017, Department of Obstetrics and Gynaecology. During the period, all the samples of Pap smear taken in Gynae OPD were studied. 200 cases who had abnormality in Pap smear and undergone both Pap smear and cervical biopsy (including hysterectomy sample) were included in the study.

Conventional Pap smears were taken at the squamocolumnar junction using Ayer's spatula in clockwise direction for 360°. The fixed cervical smears were subjected to staining according to Papanicolaou's method. The cytological interpretation of the smears was made according to the new 2001 Bethesda system. Cervical biopsies were processed by routine paraffin techniques and H&E staining.

Result-

**TABLE -1 Distribution of cases according to Age**

| Age   | Number of patients | Percentage |
|-------|--------------------|------------|
| 20-30 | 15                 | 7.5%       |
| 31-40 | 80                 | 40%        |
| 41-50 | 76                 | 38%        |
| 51-60 | 20                 | 10%        |
| 61-70 | 9                  | 4.5%       |

**TABLE 2- DISTRIBUTION OF CASES ACCORDING TO**

### FINDINGS IN PAPSMEAR

| Cytological finding | Number | Percentage |
|---------------------|--------|------------|
| UNSATISFACTORY      | 8      | 4%         |
| INFLAMMATORY        | 119    | 59.5%      |
| ASCUS               | 10     | 5%         |
| LSIL                | 18     | 9%         |
| HSIL                | 20     | 10%        |
| MALIGNANCY          | 25     | 12.5%      |
| TOTAL               | 200    | 100%       |

**TABLE 3- DISTRIBUTION OF CASES ACCORDING TO HISTOPATHOLOGICAL FINDINGS IN CERVICAL BIOPSY**

| FINDINGS           | NUMBER | PERCENTAGE |
|--------------------|--------|------------|
| NORMAL             | 11     | 5.5%       |
| CHRONIC CERVICITIS | 117    | 58.5%      |
| CIN 1              | 7      | 3.5%       |
| CIN2               | 8      | 4%         |
| CIN3               | 6      | 3%         |
| CARCINOMA          | 45     | 22.5%      |
| BENIGN TUMOR       | 6      | 3%         |
| TOTAL              | 200    | 100%       |

**TABLE 4 – CORRELATION OF FINDINGS OF PAP SMEAR WITH HISTOPATHOLOGY REPORT**

|              |     | Pap smear finding  |                    |            |          |           |              |
|--------------|-----|--------------------|--------------------|------------|----------|-----------|--------------|
| HISTO        | NO. | UNSATISFACTORY (8) | INFLAMMATORY (119) | ASCUS (10) | LSI L-18 | HSIL -20- | CARCINOMA-25 |
| Normal       | 11  | 2                  | 6                  | 1          | 2        | -         | -            |
| Infection    | 117 | 1                  | 109                | 5          | 2        | -         | -            |
| CIN1         | 7   | -                  | 1                  | 3          | 3        | -         | -            |
| CIN2         | 8   | 2                  | 1                  | -          | 4        | 1         | -            |
| CIN3         | 6   | -                  | -                  | -          | 4        | 2         | -            |
| CARCINOMA    | 45  | -                  | -                  | -          | 3        | 17        | 25           |
| BENIGN TUMOR | 6   | 3                  | 2                  | 1          | -        | -         | -            |
| TOTAL        | 200 | 8                  | 119                | 10         | 18       | 20        | 25           |

**Result-** In my study most of the women(40%) were 31-40 years of age followed by 41-50 years of age (38%).7.5% of women belonged to 20-30 years of age , 10% to 51-60 years of age and 4.5% belonged to 61-70 years of age. Mean age was 41 years. Unsatisfactory smear was found in 4% cases, inflammatory smear in 59.5 cases, ASCUS in 5% cases, LSIL in 9% cases, HSIL in 10% cases , frank malignancy in 12.5% cases. In biopsy report 5.5% of cases had normal histology report. In 58.5% cases infection (chronic cervicitis) was present. Carcinoma reported in 22.5% cases, CIN 1 in 3.5%, CIN 2 in 4%, CIN3 in 3% cases and benign tumor in 3% cases.

In Pap smear 119 cases were diagnosed with inflammatory smear, out of which 109 cases were diagnosed with chronic cervicitis , 6 with normal histology 1 with CIN1 ,1 with CIN2, and 2 with benign tumor in biopsy report.

Of 8 cases of unsatisfactory Pap smear 1 case diagnosed with chronic cervicitis , 2 with CIN2 , 3 cases with benign lesion, and 2 cases had normal histopathological finding.

Among 10 cases of ASCUS in Pap smear 1 patient had normal histology, 5 had chronic cervicitis, 3 had CIN1 , and 1 had benign lesion in histopathology report.

Among 18 cases of LSIL, 2 cases reported each of normal histology and chronic cervicitis. 3 cases of CIN1 , 4 each of CIN2 and CIN3 and 3 cases of carcinoma were reported. Of 20 cases of HSIL reported in Pap smear 17 had carcinoma, and 2 patients reported of CIN3 and 1 patient of CIN2 in biopsy report.

All 25 cases of frank malignancy diagnosed in Pap smear had malignancy in biopsy report also.

### Discussion-

Cancer cervix is considered to be a gynaecological malignancy for screening. It is presented by a spectrum of intraepithelial neoplastic changes which are precancerous lesions and were termed as cervical intraepithelial lesion. It has a long latent phase during which it can be detected as identifiable and treatable premalignant lesions which precede the invasive disease. Conventional cytological examination is most commonly used test for screening of cervical carcinoma. In my study most common age was 30-40 years.

In study done by Chandrakala Joshi et al (1) most common age was 40-50 years. Mean age in my study was 41 years. In study by Goel et al mean age was 39.38 years. (2). Most common Pap smear finding in my study was inflammatory smear 59.5% cases. Vijay Kumar et al (3) also reported inflammatory smear in 59% of cases which is very close to my study. In my study frank malignancy was reported in 12.55 cases. Vijay Kumar et al (4) reported 10% cases of malignancy in Pap smear. Saha and Thapa also reported benign lesion 51.16% and carcinoma 6.97% of the cases in cytological study. (5) In my study Pap smear showed good correlation with histopathology report. In Pap smear 119 cases were diagnosed with inflammatory smear, out of which 109 cases were diagnosed with chronic cervicitis, in biopsy report. All 25 cases diagnosed with malignancy in Pap smear were confirmed as case of malignancy in biopsy report. Of 20 cases of HSIL reported in Pap smear 17 had carcinoma, and 2 patients reported of CIN3 and 1 patient of CIN2 in biopsy report.

**Conclusion-** Pap smear is cheap, simple, non invasive and effective method for early detection of premalignant and malignant lesion of cervix and it shows good correlation with histopathology report. But Pap smear cannot identify all lesions and location, in case of suspicion finding must be confirmed by cervical biopsy

### References-

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