

## A Study of role of colposcopy in detecting cervical cancerous lesions

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### Abstract

**Background:** Cervical cancer is the second most common cancer among women worldwide, and it is responsible for 275,000 deaths each year **Aims and Objective:** To Study role of colposcopy in detecting cervical cancerous lesions. Medical College and Hospital and Late Dr.Venkatrao Dawale Medical Foundation's cancer Hospital and Research Centre, Ambajogai. 250 women attending the gynaecology OPD were studied, during the academic period June 2005 to December 2007. Patients undergone Papanicolu smear, Colposcopic examination cervix by 13 X -21X magnification. The statistical analysis was done by Chi – square calculated by SPSS 19 version. **Result:** Maximum No. of women (75%) belonged to age 21-40 years, Mean age was 36.9 years (SD  $\pm$ 9.44) (Range 20-70 years). correlation of cytological status with colposcopic diagnosis significant correlation ( $\chi^2 =8.06$ ,  $p<0.05$ ). Cytology was accurately corresponding with 80% of cytology was accurately corresponding with 80% of colposcopic diagnosis. colposcopic diagnosis with histopathological status showing significant correlation ( $\chi^2 =8.86$ , $p<0.05$ ), colposcopic diagnosis was accurately corresponding with 86.5% of histopathological lesions. **Conclusion:** It can be concluded from our study that the colposcopy was having significantly high accuracy in detecting the precancerous and cancerous lesions with respect to cytological and histopathological examination so, this method should be used wherever possible for the better management of patients.

**Key words:** Colposcopy, cervical cancer (Ca. Cervix), Human Pappiloma Virus (HPV)

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### Introduction

Cervical cancer is the second most common cancer among women worldwide, and it is responsible for 275,000 deaths each year.<sup>1</sup> Among all known types of cancer, the prospects for preventing or curing cervical cancer are among the best because it can be diagnosed early when it is still curable. About 80% of cervical cancer cases occur in developing countries, and it is the most common cause of death in women.<sup>2,3</sup> The Papanicolaou (Pap) test is the most common and cost-effective screening method for detecting cervical cancer, and it has been effective in reducing the prevalence of this cancer and the associated mortality rates among women.<sup>4</sup> Since 1950, the Pap smear has decreased the rate of cervical cancer by as much as 79%, and it has decreased the mortality rate by 70%.<sup>5</sup> However, the incidence of cervical cancer in patients who undergo frequent Pap smears is increasing<sup>6</sup> The sensitivity of

the conventional Pap smear in detecting lesions before cervical cancer occurs is 51%, which means the false negative value of this method is 49%.<sup>7</sup> The sensitivity and specificity of the Pap test in detecting high-grade lesions of cervical intraepithelial neoplasia (CIN II and CIN III) have been shown to be 55.4 and 96.8%, respectively.<sup>8</sup> In a study performed in Iran, it was found that less than 2% of the patients with cervical cancer had undergone a Pap smear in the previous 10 years.<sup>9,10</sup> Human papilloma virus (HPV) is the main cause of cervical intraepithelial neoplasia (CIN) and cervical cancer. Some studies have shown that women infected with high-risk HPV have a higher rate of progression from CIN to cancer, with a 300-fold increase in the risk of high-grade disease.<sup>6,11,12</sup> so we have taken study to see role of colposcopy in detecting cervical cancerous lesions

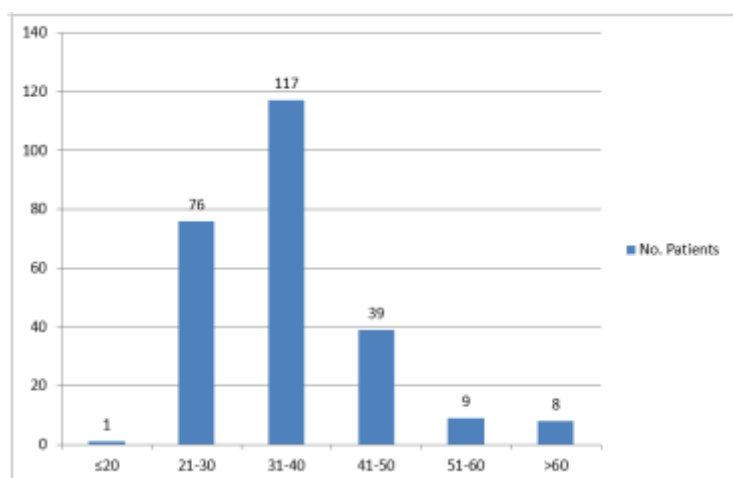
### Methodology

The present prospective study was undertaken at Swami Ramanand Teerth Rural Medical College and Hospital and Late Dr.Venkatrao Dawale Medical Foundation's cancer Hospital and Research Centre, Ambajogai. 250 women attending the gynaecology OPD were studied, during the academic period June 2005 to December 2007. The patients like Abnormal Papanicolu smear or Clinically suspicious cervix regardless of cytology i.e. unhealthy cervix (bleeds on touch, hypertrophy etc.) or Symptoms suggestive of cervical diseases like chronic lecorrhea, backache, post coital bleeding, post menopausal bleeding etc. were included into the study. All women were subjected through general, systemic and local examination. Cervix was inspected for any abnormal appearance like erosion, congestion, prominent vessels, ulceration, bleeding, hypertrophy, nodules etc. then Patients undergone Papanicolu smear, Colposcopic examination cervix by 13 X -21X magnification. The statistical analysis was done by Chi -square calculated by SPSS 19 version.

### Result

**Table 1: Distribution of patients as per the age**

Age group (Yrs.)	No. Patients	Percentage (%)
≤20	1	0.4
21-30	76	30.4
31-40	117	46.8
41-50	39	15.6
51-60	9	3.6
>60	8	3.2



**Graph 1: Distribution of patients as per the age**

Maximum No. of women (75%) belonged to age 21-40 years.  
Mean age was 36.9 years (SD  $\pm$ 9.44) (Range 20-70 years).

**Table 2: Showing correlation of cytological status with colposcopic diagnosis**

Cytological Status	Colposcopic diagnosis			
	Insignificant	LGL	HGL	Invasive
Inflamatory (152)	130	20	2	-
CIN I (42)	7	29	6	-
CIN II (22)	1	9	12	-
CIN III (25)	-	-	21	4
Invasive (3)	-	-	-	3
Atrophic (6)	5	-	1	-

Above table shows correlation of cytological status with colposcopic diagnosis significant correlation ( $\chi^2 = 8.06, p < 0.05$ ). Cytology was accurately corresponding with 80% of colposcopy was accurately corresponding with 80% of colposcopic diagnosis.

**Table 3: Showing correlation of colposcopic lesions with histopathological status**

Colposcopic diagnosis	Histopathological status						
		Chronic cervicitis	CIN I	CIN II	CIN III	MIC	Invasive Ca.
Insignificant /No suspicious lesions (143)	143	-	-	-	-	-	-
LGL (CIN I) (58)	3	27	20 (10)	7(3)	1	-	-
HGL (CIN II/III) (42)	-	1	3(1)	13	18	5	2
Invasive Ca. (7)	-	-	-	-	-	-	7

Above table shows correlation of colposcopic diagnosis with histopathological status showing significant correlation ( $\chi^2 = 8.86, p < 0.05$ ), colposcopic diagnosis was accurately corresponding with 86.5% of histopathological lesions.

## Discussion

The incidence of cervical cancer mortality rates varies in different geographic regions depending on existing screening routines in regard to cytology, colposcopy, or HPV DNA testing for identifying the population at risk.<sup>13,14</sup> Papanicolaou (Pap) cervical cytology examination has a relatively low sensitivity of 50 to 75% in detecting HGSIL, with high discrepancies between laboratories.<sup>15-16</sup> Furthermore, about 10% of Pap smears classified as LGSIL or atypical squamous cells of undetermined significance/atypical glandular cells of undetermined significance (ASCUS/AGUS) in reality have a high-grade disease.<sup>17-18</sup> On the other hand, colposcopy may detect almost all cases of high-grade CIN, but has limited specificity and reproducibility in patients with minor cytological abnormalities.<sup>19-21,22,23</sup>

In Our study we have seen that Maximum No. of women (75%) belonged to age 21-40 years, Mean age was 36.9 years (SD  $\pm$ 9.44) (Range 20-70 years). correlation of cytological status with colposcopic diagnosis significant correlation ( $\chi^2 = 8.06$ ,  $p < 0.05$ ). Cytology was accurately corresponding with 80% of colposcopy was accurately corresponding with 80% of colposcopic diagnosis. colposcopic diagnosis with histopathological status showing significant correlation ( $\chi^2 = 8.86$ ,  $p < 0.05$ ), colposcopic diagnosis was accurately corresponding with 86.5% of histopathological lesions.

Maria Adamopoulou<sup>24</sup> they found Cytology and colposcopy showed very high sensitivity in detecting CIN and cancer (91.7% and 94.4%, respectively), but low specificity (34.6% and 50%, respectively).

### Conclusion

It can be concluded from our study that the colposcopy was having significantly high accuracy in detecting the precancerous and cancerous lesions with respect to cytological and histopathological examination so, this method should be used wherever possible for the better management of patients.

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