Original Research Article

A study of role of colposcopy in detecting cervical cancerous lesions

Chandrakala Patil[1], Jyoti Dawle[2*], Vikrant Sonar[3]

[1]Professor and HOD,[2,3]Resident, Department of OBGY, MIMSR Medical College, Latur, Maharashtra, INDIA.
Email: drchandrakalapatil@gmail.com

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 ±9.44) (Range 20-70 years). correlation of cytological status with colposcopic diagnosis significant correlation (χ^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 (χ^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).

***Address for Correspondence:**
Dr. Abhishek Gugliani, M-60 (FF), Malviya Nagar, New Delhi, Delhi-110017, INDIA.
Email: drchandrakalapatil@gmail.com
Received Date: 06/03/2018 Revised Date: 11/04/2018 Accepted Date: 24/05/2018
DOI: https://doi.org/10.26611/1012627

Access this article online

Quick Response Code:

Website: www.medpulse.in

Accessed Date: 29 May 2018

INTRODUCTION

Cervical cancer is the second most common cancer among women worldwide, and it is responsible for 275,000 deaths each year[1]. 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[2, 3]. 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[4]. 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%[5]. However, the incidence of cervical cancer in patients who undergo frequent Pap smears is increasing[6]. 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%[7]. 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[8]. 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[9, 10]. 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

How to cite this article: Chandrakala Patil, Jyoti Dawle, Vikrant Sonar. A study of role of colposcopy in detecting cervical cancerous lesions. *MedPulse – International Journal of Gynaecology.* May 2018; 6(2): 48-51 http://medpulse.in/Gynacology/index.php

300-fold increase in the risk of high-grade disease[6, 11, 12] so we have taken study to see role of colposcopy in detecting cervical cancerous lesions

MATERIAL AND METHODS

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

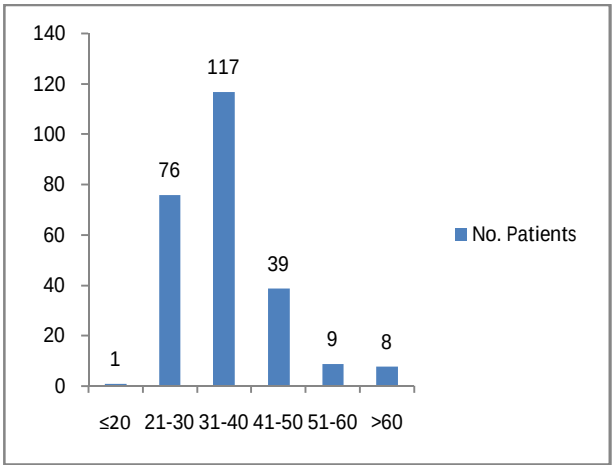

Figure 1: Distribution of patients as per the age

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

Table 2: Showing correlation of cytological status with colposcopic diagnosis

Cytological Status	Colposcopic diagnosis			
	Insignificant	LGL	HGL	Invasive
Inflamaotory (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 (χ^2 =8.06,p<0.05). Cytology was accurately corresponding with 80% of cytology 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 (χ^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[13, 14]. Papanicolaou (Pap) cervical cytology examination has a relatively low sensitivity of 50 to 75% in detecting

HGSIL, with high discrepancies between laboratories[15-16]. 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[17-18]. 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[19-21,22,23]. 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 ±9.44) (Range 20-70 years). correlation of cytological status with colposcopic diagnosis significant correlation (χ^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 (χ^2 =8.86,p<0.05), colposcopic diagnosis was accurately corresponding with 86.5% of histopathological lesions. Maria Adamopoulou [24] 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.

REFERENCES

1. De Freitas AC, Coimbra EC, Leitão MdCG. Molecular targets of HPV oncoproteins: Potential biomarkers for cervical carcinogenesis. Biochimica et Biophysica Acta (BBA)-Reviews on Cancer. 2014; 1845(2):91–103. doi: 10.1016/j.bbcan.2013.12.004.
2. Spensley S, Hunter RD, Livsey JE, Swindell R, Davidson SE. Clinical outcome for chemoradiotherapy in carcinoma of the cervix. Clinical oncology. 2009; 21(1):49–55. doi: 10.1016/j.clon.2008.10.014.
3. Bueno CT, Silva CMDd, Barcellos RB, Silva Jd, Santos CRd, Menezes JES, et al. Association between cervical lesion grade and micronucleus frequency in the Papanicolaou test. Genetics and molecular biology. 2014; 37(3):496–9. doi: 10.1590/S1415-47572014000400004.
4. Peirson L, Fitzpatrick-Lewis D, Ciliska D, Warren R. Screening for cervical cancer: a systematic review and meta-analysis. Syst Rev. 2013;2(35):1–14. doi: 10.1186/2046-4053-2-35.
5. Ries L, Melbert D, Krapcho M, Stinchcomb D, Howlader N, Horner M, et al. SEER cancer statistics review, 1975–2005. Bethesda, MD: National Cancer Institute; 2008. pp. 1975–2005.
6. Berek JS, Hacker NF. Practical Gynecologic Oncology: Lippincott Williams and Wilkins; 2000.
7. Koutsky LA, Holmes KK, Critchlow CW, Stevens CE, Paavonen J, Beckmann AM, et al. A cohort study of the risk of cervical intraepithelial neoplasia grade 2 or 3 in relation to papillomavirus infection. The New England journal of medicine. 1992; 327(18):1272–8. doi: 10.1056/NEJM199210293271804.
8. Mayrand MH, Duarte-Franco E, Rodrigues I, Walter SD, Hanley J, Ferenczy A, et al. Human papillomavirus DNA versus Papanicolaou screening tests for cervical cancer. The New England journal of medicine. 2007; 357(16):1579–88. doi: 10.1056/NEJMoa071430.
9. Zarchi MK, Binesh F, Kazemi Z, Teimoori S, Soltani HR, Chiti Z. Value of Colposcopy in the Early Diagnosis of Cervical Cancer in Patients with Abnormal Pap Smears at Shahid Sadoughi Hospital, Yazd. Asian Pacific Journal of Cancer Prevention. 2011; 12:3439–41.
10. Karimi Zarchi M, Akhavan A, Fallahzadeh H, Gholami H, Dehghani A, Teimoori S. Outcome of cervical cancer in Iranian patients according to tumor histology, stage of disease and therapy. Asian Pacific journal of cancer prevention: APJCP. 2010; 11(5):1289–91.
11. Ley C, Bauer HM, Reingold A, Schiffman MH, Chambers JC, Tashiro CJ, et al. Determinants of genital human papillomavirus infection in young women. Journal of the National Cancer Institute. 1991; 83(14):997–1003.
12. Bernard E, Pons-Salort M, Favre M, Heard I, Delarocque-Astagneau E, Guillemot D, et al. Comparing human papillomavirus prevalences in women with normal cytology or invasive cervical cancer to rank genotypes according to their oncogenic potential: a meta-analysis of observational studies. BMC infectious diseases. 2013; 13(1):1–11. doi: 10.1186/1471-2334-13-373.
13. Laara E, Day NE and Hakama M: Trends in mortality from cervical cancer in the Nordic countries: association with organised screening programs. Lancet 1: 1247-1249, 1987.
14. Anderson GH, Boys DA, Benedet JL, Le Riche JC, Matisie JP, Suen KC, Worth AJ, Millner A and Bennett OM: Organisation and results of cervical cytology screening program in British Columbia, 1955-85. BMJ 296: 975-978, 1988.
15. Lieu D: The Papanicolaou smear: its value and limitations. J Fam Pract 42: 391-399, 1996.
16. Chamberlain J: Reasons that some screening programmes fail to control cervical cancer. In: Screening for Cancer of the Uterine Cervix. Hakama M, Miller A and Day N (eds.). Vol. 76: 161- 168, 1986 Lyons, France: IARC.
17. Falcone T and Ferenczy A: Cervical intraepithelial neoplasia and condyloma: an analysis of diagnostic accuracy of posttreatment follow-up methods. Am J Obstet Gynecol 154: 260-264, 1986.
18. Kinney WK, Manos MM, Hurley LB and Ransley JE: Where is the high-grade cervical neoplasia? The importance of minimally abnormal Papanicolaou diagnoses. Obstet Gynecol 91: 973-976, 1998.
19. Wright TC, Jr, Cox JT, Massad LS, Carlson J, Twiggs LB and Wilkinson EJ: 2001 consensus guidelines for the management of women with cervical intraepithelial neoplasia. Am J Obstet Gynecol 189: 295-304, 2003.

20. Monsonego J, Bosch FX, Coursaget P, Cox JT, Franco E, Frazer I, Sankaranarayanan R, Schiller J, Singer A, Wright TC Jr, Kinney W, Meijer CJ, Linder J, McGougan E and Meijer C: Cervical cancer control, properties and new directions. Int J Cancer 108: 329-333, 2004.
21. Hatch KD, Schneider A and Abdel-Nour MW: An evaluation of human papillomavirus testing for intermediate and high-risk types as triage before colposcopy. Am J Obstet Gynecol 172: 1150-1157, 1995.
22. Follen Mitchell M, Schottenfeld D, Tortolero-Luna G, Cantor SB and Richards-Korturn R: Colposcopy for the diagnosis of squamous intraepithelial lesions: a meta-analysis. Obstet Gynecol 91: 626-631, 1998.
23. Huntington J, Oliver LM, St Anna L and Hill J: What is the best approch for patient with ASCUS detected on Pap smear? J Fam Pract 53: 240-241, 2004.
24. Maria Adamopoulou, Eleni Kalkani, Ekatherina Charvalos. Comparison of Cytology, Colposcopy, HPV Typing and Biomarker Analysis in Cervical Neoplasia. ANTICANCER RESEARCH 29: 3401-3410 (2009)

Source of Support: None Declared
Conflict of Interest: None Declared