

Original Research Article

Correlation of precancerous and cancerous uterine cervical lesions – A Cyto-histopathologic study

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Abstract: Cytological examinations to the uterine cervix are the most effective, accurate and promising procedure for the detection of early and unsuspected carcinoma and other related complications. This study aimed to evaluate the cervical lesions and abnormal uterine bleeding by cytology and histology and correlating with hysterectomy findings. One hundred study group and one hundred control group subjects were considered and Study group patients further divided into reproductive age group with complaints and menopausal age group with complaints. There was 81.8% correlation between aspiration cytology and endometrial biopsy for diagnosis of pre-cancerous lesions of uterus. The accuracy for cytological diagnosis of hyperplasia in this study was 75% and 60% by endometrial biopsy. There was 81.25% correlation in inflammatory, 50% correlation in severe dysplasia, 33.3% correlation in carcinoma between cytology and biopsy. Thus, Present study shows that cytology is nearing accurate for diagnosis of precancerous and cancerous lesions of uterus and cervix.

Keywords: Uterine Cervical lesions, Cytology, Histopathology, Endometrial biopsy

INTRODUCTION

Carcinoma of the female genital tract, especially to uterine cervix is common prevalent forms of cancer in most developing countries including India and remains a major cause of death. Cervical cancer is the second most common cancer in women globally [1]. Cytological screening for cervical cancer and precancerous lesions has been proved to be very effective in lowering the incidence of cervical cancer and its related mortality [2-4].

The benefits of cervical screening have been demonstrated in numerous studies, in Sweden this has resulted in 75% reduction in the incidence of cervical cancer [5]. Carcinoma of uterine cervix is most studied and researched. It is estimated that out of 480,000 cases seen approximately in the world of which over 75% are in the developing countries [6]. There is recent raise in precancerous and cancerous lesions among gynecological disease, so there for necessity of early detection of complication [3]. Thus vaginal smear, cervical biopsy and endometrial aspiration have been

adopted as Cytological and histopathologic procedures in this study. Hysterectomy has been performed after confirmation of diagnosis by cytology and biopsy. The present study aimed to evaluate the cervical lesions and abnormal uterine bleeding by cytology and histology. Correlating these with hysterectomy findings in order to evaluate the usefulness of cytological and histological examination in diagnosis of precancerous and cancerous lesions.

MATERIALS AND METHODS

The Patients and control subjects for the present study were collected from Jayaa Hospital, Miyapur, Hyderabad and Shreya Hospital, Moti nagar, Hyderabad. A total One hundred patients with cervical lesions and one hundred control subjects were considered for this study. Study group patients further divided into reproductive age group with complaints and menopausal age group with complaints. Patients with excessive discharge per vagina, pain in lower abdomen, irritation or itching vulva, suspicious naked eye appearance of cervix, history of known diethyl still

boesterol exposure, patients in whom a positive smear is obtained, menstrual abnormalities like menorrhagia, Polymenorrhoea and metrorrhagia were included in this study. Follow up cases of normal delivery abortions and sterilization were included under control group. A

detailed history of clinical, general, per vaginum and per speculum examination was noted and informed consent was obtained from all the patients.

RESULTS

Table 1: Distribution of cases according to the age group

Group	Age (In Years)	Cervical lesion		Abnormal Uterine bleeding	
		Number	Percentage	Number	Percentage
A	25-30	21	21	12	12
B	31-35	5	5	6	6
C	36-40	29	29	27	27
D	41-45	15	15	22	22
E	46-50	16	16	13	13
F	51-55	3	3	6	6
G	56-60	8	8	9	9
H	61-65	2	2	4	4
I	66-70	1	1	1	1
Total		100	100.00	100	100.00

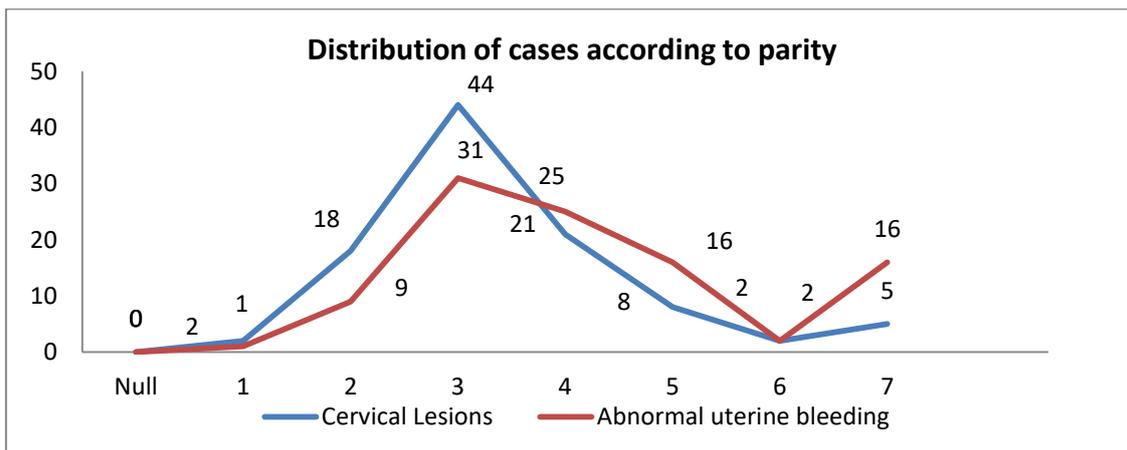


Fig 1: Distributing of cases according of parity

Table 2 Distribution of cases according to per vaginum & per speculum findings

Findings	Cervical lesion		Abnormal Uterine bleeding	
	Number	Percentage	Number	Percentage
Per vaginum Uterine				
Normal	77	77	58	58
Bulky(uterus)	14	14	35	35
Atrophic	09	09	10	10
Total	100	100	100	100
Per speculum Cervix				
Healthy	00	00	00	00
Erosion	73	73	69	69
Cervicitis	21	21	24	24
Growth	06	06	07	07
Total	100	100	100	100

Table 3: Cytology and histology of cervical lesions

Cytology			Cervical Biopsy		
Cytology	Number	Percentage	Cytology	Number	Percentage
Normal	21	21	Normal	03	03
Inflammatory	32	32	Cervicitis	25	25
Mild dysplasia	18	18	Mild dysplasia	11	11
Moderate dysplasia	14	14	Moderate dysplasia	07	7
Severer dysplasia	04	4	Severer dysplasia	05	5
Carcinoma in	03	3	Invasive Carcinoma	03	3
Invasive Carcinoma	03	3	Inadequate	01	1
Inadequate	05	5			
Total	100	100.00		55	100.00

Table 4: Percentage correlation between cytology and histology findings in cervical lesions

Diagnosis	No. of cases of cytology	No. of cases cervical biopsy	Percentage correlation
Inflammatory	32	26	81.25
Mild dysplasia	18	11	61.11
Moderate dysplasia	14	9	64.28
Severer dysplasia	04	02	50.00
Invasive Carcinoma	03	01	33.33

Table 5: Cytology and histology of abnormal uterine bleeding

Aspiration Cytology			Endometrial Biopsy				
Diagnosis	Number	Percentage	Diagnosis	Number	Percentage		
Normal	31	56.36	Proliferative	25	45.45		
Hyperplasia	5	9.09	Secretomy	12	21.81		
	Simple	2	3.64	Hyperplasia	5	9.09	
	Cystic	2	3.64		Simple	2	3.64
	Adenomatous	1	1.81		Cystic	1	1.84
Suspiciously malignancy	4	7.28	Adenomatous	2	3.64		
Malignancy	4	7.28	Malignancy	3	5.45		
inadequate	6	10.90	inadequate	5	9.09		
Total	55	100	Total	55	100		

Table 6: Correlation between finding of aspiration cytology and endometrial biopsy

Diagnosis	No. of cases of cytology	No. of cases cervical biopsy	Percentage correlation
Normal	31	37	83.78
Simple Hyperplasia	02	02	100.00
Cystic Hyperplasia	02	01	50.00
Adenomatous Hyperplasia	01	02	50.00
Malignancy	04	03	75.00

DISCUSSION

In present study includes 100 cases having cervical lesions and abnormal uterine bleeding by cytology and histology. Correlating these with hysterectomy findings in order to evaluate the important of cytological and histological examination in diagnosis precancerous and cancerous lesions amongst gynaecological disease.

Study group are in between 25-70 years, majority cases were under 36-40 years. Saha R *et al.*; in 2005 stated mean age of patients 40.3 years, these findings are compatible to the present study. In distribution of patients according to parity in the present study maximum cases were under parity 4 which signifies that

dysplasia and malignancy is a disease of multiparous group. Saha R *et al.*; showed mean parity of patients 2.3 [7].

On cytological examination by vaginal pool smear and cervical cytology, 21% had normal smear, 32% inflammatory smear, dysplasia (mild in 18%, moderate in 14% and severe in 4%). On histopathology findings of specimen, Cervicitis was seen in 25%, dysplasia (mild in 11%, moderate in 7% and severe in 5%) and carcinoma in 3% cases. There was 81.25% correlation in inflammatory, 50% correlation in severe dysplasia, 33.3% correlation in carcinoma between cytology and biopsy.

Cases were subjected to endometrial aspiration and slides were reviewed. During cytological study 56.36% cases showed normal. Endometrial biopsy was done in similar group, 18% hyperplasia (3.64% simple, 1.84% cystic and 3.64% adenomatous) reported. Therefore there was 81.8% correlation between the findings of aspiration cytology and endometrial biopsy for diagnosis of pre-cancerous lesions of uterus. The accuracy for cytological diagnosis of hyperplasia in our study was 75% and 60% by endometrial biopsy. Nikitina *et al.*; found diagnostic accuracy of hyperplasia to be 89.8%, whereas Segadal and Iverson found 75% accuracy in diagnosing pre-malignant changes by cytology [9]. Sagar *et al.*; reported an accuracy of 88.88% in diagnosing hyperplasia, Agarwal *et al.*; reported on accuracy of 72.49% which can be compared to our findings [10].

CONCLUSION

Cytology was painless procedure causing minimal discomfort to the patients were willing even if there was a need to be repeated. Value and accuracy of vaginal and cervical smears in the diagnosis of cervical carcinoma are well known, but they have a low accuracy in the diagnosis of endometrial cells desquamated and tend to degenerate before they reach the vagina and posterior fornix. In the present study there was 81.8% correlation between the findings of aspiration cytology and endometrial biopsy for diagnosis of pre-cancerous lesions of uterus. The accuracy for cytological diagnosis of hyperplasia in our study was 75% and 60% by endometrial biopsy. There was 81.25% correlation in inflammatory, 50% correlation in severe dysplasia, 33.3% correlation in carcinoma between cytology and biopsy. Present study shows that cytology is nearing accurate for diagnosis of precancerous and cancerous lesions of uterus and cervix. Thus at least once annually every women in pre and postmenopausal with or without symptoms, but

with suspicious findings clinically should be screened by vaginal, cervical and endometrial aspiration cytologies to detect precancerous and cancerous lesions amongst gynecological disease.

REFERENCES

1. International Agency for Research on Cancer [internet]. GLOBOCAN 2008. Available from: <http://www.iarc.fr/>. [Last accessed on 2013 March 26].
2. Christopherson WM, Mendez WM, Ahuja EM, Lundin FE, Parker JE. Cervix cancer control in Louisville, Kentucky. *Cancer*. 1970 Jul 1; 26(1):29-38.
3. Christopherson WM, Scott MA. Trends in mortality from uterine cancer in relation to mass screening. *Acta cytologica*. 1976 Dec; 21(1):5-9.
4. Dickinson L, Mussey ME, Soule EH, Kurland LT. Evaluation of the effectiveness of cytologic screening for cervical cancer. I. Incidence and mortality trends in relation to screening. In *Mayo Clinic Proceedings* 1972 (Vol. 47, No. 8, pp. 534-44).
5. Brinton LA, Herrero R, Reeves WC, de Britton RC, Gaitan E, Tenorio F. Risk factors for cervical cancer by histology. *Gynecologic oncology*. 1993 Dec 1; 51(3):301-6.
6. ACOG Practice Bulletin. Clinical management guidelines for obstetrician-gynaecologist, number 45, August 2003.
7. Saha R, Thapa M. Correlation of cervical cytology with cervical histology.
8. Nikitina NI, Nevskaya EA, Vekhova LI. Cytodiagnosis of endometrial cancer. *Voprosy onkologii*. 1978 Dec; 25(9):33-41.
9. Vuopala S. Diagnostic Accuracy and Clinical Applicability of Cytological and Histological Methods for: Investigating Endometrial Carcinoma. *Acta Obstetrica et Gynecologica Scandinavica*. 1977 Jan 1; 56(sup70):4-72.
10. Sagar S, Prakash P and Goyal U. A histocytologic. Study of endometrium by aspiration technique. *J. Obsert. Gynace. Ind*, 1981; 31/4: 626-629.