

DIAGNOSTIC ACCURACY OF COLPOSCOPY - A COMPARATIVE ANALYSIS BETWEEN TWO SERIES

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SUMMARY

It is generally believed that only the experienced colposcopists can give an accurate diagnosis. Whether this is a myth or a fact was sought to be judged by comparing the results of two studies. Study A was conducted on 100 patients in a private hospital, where colposcopies were performed only by senior consultants. Study B was conducted on 134 patients in a teaching hospital, where colposcopies were performed by less experienced doctors, the resident staff and only occasionally by senior consultants. In the former group there was good correlation in 76% of the patients studied, minor differences of one grade above or below in 13%, and major discord of more than one grade above or below in 11% of the patients. In the latter group, good correlation, minor and major discord occurred in 75.3%, 18.7% and 6% respectively. On application of the Chi Square Test, and with a 95% confidence limit, the statistical difference between the number of patients with major discord in group A and group B was insignificant.

INTRODUCTION

Colposcopy is a study of the subtle changes in the vascular patterns of the cervix, while cytology is a study of the morphological changes in the cell. When utilized alone, the former has an accuracy of 80%, while the latter has a false negative of 2-20%. Used together, the accuracy of these two investigations increases to 98.9%.

The use of the colposcope in clinically suspicious cervixes with negative cytology, as also in cases of abnormal cytology, reduces the

number of unnecessary biopsies and conizations.

MATERIAL & METHODS

Patients with abnormal cytology or with a clinically suspicious cervix were subjected to a colposcopic evaluation. Colposcopically directed biopsies were taken when necessary, either at the initial screen, or on follow up after treatment of obvious cervical inflammation, if present. Once a proper grading of the degree of neoplasia was made, taking cytology, colposcopy and histology into consideration, the patients were managed appropriately.

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The colposcopic appearances were classified according to Coppelson and Reid's classification as follows:

Grade I - Atypical appearance of minor significance compatible with the overlapping histological series from normal to metaplasia to minor dysplasia.

Grade II - Atypical appearance of significance, compatible with major dysplasia or carcinoma-in-situ.

Grade III - Atypical appearance of high significance compatible with carcinoma in situ or invasive carcinoma.

Although the standard WHO classification was used to grade the smears, for comparative analysis, the cytological and histological appearances were classified into three grades:

Grade A : Normal or minor dysplasia

Grade B : Major dysplasia or carcinoma-in-situ (small cell type)

Grade C : Carcinoma-in-situ (large cell type), microinvasive or invasive carcinoma of the cervix.

Hence, patients could be divided cytologically as AC, BC or CC; histologically as AH, BH or CH; and colposcopically as I, II or III.

Thereafter the cases were divided into 3 groups:

1. Well correlated eg. I AC AH or III CC CH
2. Patients with differences of one grade above or below were grouped as minor discord: eg. I BC AH or II AC BH
3. Differences of more than one grade above or below were included in major discord: eg. I CC AH or III AC CH

RESULTS AND DISCUSSION

Of a total of 100 patients in Study A, 76 had good correlation at a cytologic, colposcopic and histologic level. In 13 patients there was a difference of 1 grade above or below, and in 11 there was major discord.

Of the 134 patients in Study B, 101 patients had good correlation, while 25 and 8 patients respectively had minor and major differences.

Type of Correlation	Study A		Study B	
	No. of Patients	Percentage	No. of Patients	%
Good	76	76	101	75.3
Minor Discord	13	13	25	18.7
Major Discord	11	11	8	6.0
Total	100		134	

If the cases of minor discord were termed unimportant, 89% of patients had an acceptable correlation in Group A, and 94% had an acceptable correlation in Group B.

On applying the Chi Square Test with a p value of 0.05 there was no statistical difference between the results of the 2 groups.

The cases of discord were reviewed in both studies.

Cases of Discord	Study A	Study B
1) Severe Inflammation	2	4
2) Cervical Koch's	2	1
3) Post Radiation	1	1
4) Endocervical lesions	2	-
5) Torn, lacerated crevix	2	-
6) Forgotten IUCD	1	-
7) Prolapse with decubitus ulcer	1	-
8) Unexplained	-	2
Total	11	8

Of the 2 cases of unexplained discord, one was diagnosed as carcinoma-in-situ on cytology,

carcinoma-in-situ with glandular extension of cervix on histology, but as grade I on colposcopy.

The cytology of the second patient showed metaplasia with giant cells, histology showed moderate dysplasia, but colposcopy was overdiagnosed as grade III.

The problem of major discord is inherent, and can be explained scientifically. Each modality of diagnosis has its own advantages and disadvantages. Clinical interpretation is not at all difficult, and lesions "stare at you" and "hit you in the eye". Cytology can pick up lesions high up in the cervical canal which can be missed on colposcopy, but it may present a confusing picture in the presence of severe inflammation or following radiotherapy. On the other hand colposcopy, which can overdiagnose in cases of Koch's cervicitis or post-radiation cervicitis, can pick up cases missed on cytology. A colposcopically directed biopsy eliminates the risk of missing a lesion as in a random punch biopsy of the cervix. All cases of major discord between cytology, colposcopy and histology must be colposcopically re-examined, and the slides re-evaluated.

In the developed countries the mortality due to cancer cervix has been markedly reduced as a result of improved and more widely applied

methods of screening, as also the public awareness of the need for an early diagnosis. But the picture in India is different, with the incidence of cancer cervix standing at an appalling 60/1,00,000, and a high mortality. Down staging of the disease from stage III and IV to stage I or zero is recommended by the WHO as an urgent measure. This can only be done if practicing gynaecologists are motivated to do cancer detection amongst their patient population.

In the National Cancer Control Programme which has been launched, it is envisaged that screening for cervical cancer should be available to all women.

In India today there are only about 400 cytologists, but over 8000 gynaecologists. It will take several years to train adequate staff for cytology screening, but already trained gynaecologists can be easily persuaded to use colposcopy in their routine practice. A short training course will give them adequate confidence to screen the patients under their care.

The present study proves that experience may be necessary for very good correlation and while evaluating difficult cases. But for routine screening, any trained gynaecologist is competent and should be allowed to use the colposcope.