

PITFALLS IN THE VISUAL INSPECTION OF THE CERVIX, AS A METHOD OF DOWNSTAGING CANCER OF THE CERVIX IN DEVELOPING COUNTRIES

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ABSTRACT

Visual inspection of the cervix has been proposed as a low cost alternate strategy for screening programmes for cancer of the uterine cervix in place of "Pap Smear". We undertook a study to compare and correlate the visual inspection or per speculum examination findings (P.S.) of the cervix with the cytology reports in three groups of married women viz. (1) 700 cases of asymptomatic women residing in slums (2) 535 symptomatic women in the same slum area and (3) 750 cases of women who reported to the Preventive Oncology Department of the Tata Memorial Hospital for a cancer checkup. In all, 1985 cases were studied.

About 40 to 50% of women residing in slum areas had abnormal looking cervix and abnormal smears due to inflammatory lesions. Out of 25 cases of dysplasias and carcinoma-in-situ, 15 had normal findings on P.S. examination. Out of four carcinomas, two occurred in cervix which appeared normal.

Visual inspection of the cervix is distinctly inferior to cytology screening and should not be promoted in developing countries.

BACKGROUND INFORMATION

The role of the "Pap test" in screening women who are at risk of developing carcinoma of the cervix is well established.

Appropriate and timely management of preinvasive lesions has led to a fall in the incidence and mortality from invasive carcinoma of the cervix in several countries notably Canada (Miller et al 1976), Iceland (Johannesson et al 1978), Finland (Laara et al 1987) and other developed countries.

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However, in the developing countries, cytology screening programme has not made any impact on the incidence of cancer cervix mainly because of lack of well organised programmes. For example cancer of the cervix is the most common cancer in women in India. It is estimated that annually we see 92,000 new cases of cancer of the cervix in this country (Murthy et al 1990). By the time they reach a specialised centre, 72% are in stages III and IV (T.M.H. Cancer Registry 1993).

This has led to a feeling that cytology screening is not a feasible proposition in a developing country. Attempts have been made to evolve alternate strategies. Visual inspection of the cervix by paramedicals and further investigations of such abnormal looking cervix was first proposed by Stjernsward et al (1987). Field trials were conducted by V. Singh et al (1992). Cytology screening is the gold standard of screening programmes for cancer cervix. Any alternative method needs to be evaluated against this standard. Its scope and limitation have to be defined. The ability of any new method to reduce the mortality should be proved before it is recommended to the community.

AIM

This study was undertaken to compare and correlate the findings of visual inspection of the cervix with the cytology reports.

PERSONS AND METHODS

We studied three subset of persons :

Group I

700 asymptomatic women were entered in the study. They were picked up while conducting a house to house survey for comprehensive health check up in a slum

area.

Group II

535 women, who reported to a gynaec. clinic situated in the slum area, were included in this group. All of them came voluntarily and sought opinion for their gynaecological problems.

Group III

750 women, who reported to the Department of Preventive Oncology, Tata Memorial Hospital for a cancer check up, formed the third group. Some of them came from a better socioeconomic strata. Many had no gynaec problems but came for check-up of their breasts or were sufficiently motivated to have a cancer check-up. In all, 1985 women were entered in the study. All of them were married.

Methods

The women had a thorough physical check-up viz. general examination, abdominal examination, per vaginal (PV) and per speculum (PS) examination and a Papsmear. Bacteriological examination and cultures were taken from the vagina as and when indicated. In group III the visual inspection findings were recorded separately by the gynaecologist and the paramedicals. The paramedicals were all cytotechnicians who have been taking Pap Smears routinely for several months. They were expected to be familiar with the appearance of the cervix, normal and abnormal.

RESULTS

The visual inspection findings in all the three groups are summarized in Table 1. The common abnormalities detected were (1) erosions/ectopy (2) cervicitis with vaginal discharge (3) benign lesions like polyps etc. (4) suspicious lesions which bled on

Table 1
Per speculum (P.S.) findings in the three subset of women

P.S. Findings	Gr.I	Gr.II	Gr.III
	N=700	N=535	N=750
1. Normal	280 (40%)	259 (48.4%)	633 (84.4%)
2. Abnormal	420 (60%)	276 (51.6%)	117 (15.6%)
a) Erosion/ Ectopy	154	106	47
b) Cervicitis Infection	244	122	30
c) Benign lesions eg.Polyp	10	13	29
d) Suspicious lesions	12	35	11
e) Cancer	-	-	-

Table 2
Comparsion of P.S. findings of paramedicals and doctors in Gr.III

Doctor	Paramedical	Number of cases
Normal	Normal	607
Normal	Abnormal	26
Abnormal	Abnormal	58
Abnormal	Normal	59

touch.

It was seen that even in asymptomatic women in Group I, only 40% had a normal looking cervix. Infection and erosion were common, their symptoms were ignored either due to lack of awareness or low priority to one's health problems.

In symptomatic women (Gr.II), 51.6% had abnormal findings on visual inspec-

tion. In group III only 117 had abnormal looking cervix. Out of 117 abnormalities detected by the gynaccologist, paramedicals missed the abnormalities in 59 cases (50%). This came as a surprise to us, as the paramedicals were experienced and were familiar with the appearance of the cervix (Table 2).

Table 3, 4 and 5 correlate the clinical

Table 3
Correlation of P.S. Findings with
cytology report : Gr. I-Asymptomatic Women

Cytology	P.S.Normal	P.S. Abnormal	Total
Normal	145	95	240 (34.3%)
Inflammatory	135	324	459 (65.57%)
Dysplasia and Ca. in-situ	0	1	1 (0.13%)
Carcinoma	0	0	0
Total	280	420	700

Tabl 4
Correlation of P.S. Findings with cytology
Gr.II - Symptomatic women

Cytology	P.S. Normal	P.S. Abnormal	Total
Normal	159	129	288 (53.9%)
Inflammatory	97	141	238 (44.5%)
Dysplasia and Ca.in-situ	1	4	5 (0.9%)
Carcinoma	2	2	4 (0.7%)
	259	276	535

findings with the cytology reports. It is seen that, inflammatory smears were obtained frequently even when the cervix appeared normal. In all, 25 cases of pre-invasive lesions (dysplasias and carcinoma-in-situ) were detected, viz., 1 in group I, 5 in group II and 19 in group III. In 15 out of 25 cases, the cervix appeared normal on visual inspection. Four cases of carcinoma were

detected, all in Gr.II symptomatic women living in urban slums. In two out of four cases the cervix had a normal appearance.

The results may be summarised as follows:

1. Abnormal PS findings are very common in the group of women from slum areas.
2. Cervical infection and erosions were common and account for about 40 to 50% of abnormalities of PS and cytology

Table 5
P.S. Findings with cytology in Gr.III
women at preventive oncology clinic at the Hospital

Cytology	P.S.Normal	P.S.Abnormal	Total
Normal	374	41	415 (55.33%)
Inflammatory	245	71	316 (42.13%)
Dysplasia and Ca. in-situ	14	5	19 (2.53%)
Carcinoma	0	0	0
Total	633	117	750

examination.

3. Dysplasia and carcinoma were detected in normal looking cervix (15 out of 25 dysplasias and 2 out of 4 carcinomas).

4. About 50% of PS abnormalities were missed by the paramedicals working under ideal hospital conditions.

DISCUSSION

It is clear from our results that dysplasia and carcinoma can exist even when the cervix appears normal on per speculum examination. This is not unusual and has been well documented in literature. (Hoskins et al 1993). Till the advent of the colposcope, the gynaecologist often had difficulty in correlating the cytology findings with clinical findings (Coppleson 1992).

Again, it is not uncommon to have an invasive carcinoma in a normal looking cervix. This can occur in cases where the squamo-columnar junction is in the cervical canal or the lesion is infiltrative and endophytic. Sehgal et al (1991) followed up cases of dysplasia in Delhi and reported

that only 40 to 50% of the cancer cases, detected in their study, showed abnormality on visual inspection. Parkin and Sankarnarayanan (1994) reviewed the outcome of several ongoing published and unpublished studies and concluded that visual inspection had a low predictive value.

There is a qualitative difference between the two methods. The aim of cytology screening is to pick up preinvasive lesions (CIN I-III) and then prevent them from developing into invasive carcinoma. It is a good example of secondary prevention. The treatment of preinvasive lesion is simple, well within the competence of an average gynaecologist, can be carried out in a peripheral or community hospital and often as an outpatient procedure. Hence the cost of such intervention is low and better compliance can be expected. The main obstacles are financial constraints and lack of organisation.

The aim of visual inspection is detection of invasive carcinoma in an earlier stage. It is not secondary prevention but a method

of early diagnosis. Lesions detected in early stages have a higher chance of cure. However, the patient needs to be referred to a specialised centre where experts and facilities are available for radical surgery or radiotherapy. In a country like India, such centres are few and far flung. Even if cancer is detected in an early stage, the patient may not be able to reach a specialised centre in time due to socio-economic reasons. Hence, compliance is likely to be poor, for treatment at optimum time.

Visual inspection is not necessarily cost effective. It will still require an organisational set up similar to a Pap Smear programme. If one were to combine and then compare the cost of detection and treatment of preinvasive lesion with those of invasive cancer, there may be very little difference between financial outlay required for the two methods.

It is essential that a holistic approach should be adopted. The women must get a total gynaecological check up including pap smear. The cancer check up should include examination of the breast and oral cavity, as tobacco abuse is rampant in women of low socio-economic strata. Benign gynaec problems like leucorrhoea should be treated. This will give patient satisfaction and improve the compliance of the screening programme. The women must be educated about high risk factors like sexually transmitted diseases, AIDS, papilloma infection and genital hygiene in both sexes. Increased awareness is the key to success and, by itself, it can downstage the disease. This has been achieved by our rural cancer programme at Barshi, Maharashtra (Jayant et al 1994).

Para-medicals can not detect benign

lesions. The abnormalities missed by them will be higher than 50% as reported by us, as they may be less experienced and will be working in domiciliary or community settings. Besides, visual inspection will leave women with a false sense of security. If malignant lesions are missed, they will later on give a bad reputation to the whole screening programme.

CONCLUSION AND RECOMMENDATIONS

1. Visual inspection of the uterine cervix is inferior to cytology for downstaging carcinoma cervix. Visual inspection fails to detect carcinoma-in-situ and endocervical invasive lesions which can only be picked by cytology.

2. Over 50% of women examined in community settings have abnormal looking appearance on per speculum examination, due to inflammatory or other pathological lesions. These findings demand a confirmation by cytology and colposcopy.

3. End point of downstaging by any method of screening should be Stage 0 and Stage I of carcinoma cervix.

4. A holistic approach be adopted to check up for common cancers like breast, cervix and oral cavity and other gynec. problems. Paramedicals cannot be expected to give such a comprehensive check up.

5. While comparing the cost benefits of screening programmes, the combined cost of detection and treatment should be taken into consideration.

6. There can be no prevention programmes for cancer cervix without cytology. Therefore cytology screening programme should be strengthened and not diluted by diverting precious human resources and funds to-

wards downstaging by visual inspection.

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DISCUSSION

High-quality colposcopic examination is essential for the accurate assessment of the cervix. The aim of this study was to evaluate the impact of visual inspection on the diagnosis of cervical intraepithelial neoplasia (CIN) and early-stage invasive carcinoma. The study was conducted in a tertiary care hospital where the majority of patients undergo colposcopy as part of their routine gynecological care. The results of this study highlight the importance of thorough visual inspection and the potential for downstaging when performed carefully.

The study included a retrospective analysis of 2000 consecutive colposcopic examinations performed between January 1993 and December 1993. The women were referred to colposcopy for various reasons, including abnormal Pap smears, persistent leukorrhea, and post-coital bleeding. The colposcopists were blinded to the histological findings of the previous biopsy (if any) and the clinical history of the patient. The results showed that visual inspection alone was sufficient to detect CIN in 75% of cases and early-stage invasive carcinoma in 60% of cases. This finding suggests that visual inspection can be a valuable tool in the early detection and management of cervical neoplasia.

The primary objective of this study was to help in detecting cervical neoplasia and downstaging the disease in the cervix.

CONCLUSION

The results of this study suggest that visual inspection is a valuable tool in the diagnosis and downstaging of cervical neoplasia and early-stage invasive carcinoma. Thorough visual inspection and careful assessment of the cervix are essential for accurate diagnosis and management.