SCREENING FOR CERVICAL CANCER BY PAP SMEAR

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Abstract

Between November 1986 and February 1988, 2806 cervical smears were taken from every patient attending the Obstetrics and Gynaecology consulting clinics at The Aga Khan University Hospital (AKUH) Karachi.
Of 2806 smears 2774 (98.9%) were adequate, cytology was positive in 35, a prevalence rate of 12.6 per 1000. The highest incidence was in the age group of 2544 years. Eighty percent patients with positive cytology had no symptoms related to micro-invasive or invasive disease of cervix (JPMA 38: 229, 1988).

INTRODUCTION

Cervical cancer may be indentified by means of appropriate techniques in its pre-invasive forms, namely mild to severe dysplasia and carcinoma in situ. These pre-invasive forms are thought to be part of a continum recently termed cervical intra-epithelial neoplasia (CIN). Although not all the dysplasias progress to carcinoma in situ and ultimately invasive carcinoma, to date there is no means available whereby the behaviour of a given dysplastic lesion can be predicted. Usually the time lag between the appearance of precursor cervical lesion and the development of invasive carcinoma is 10-15 years[1-2].
According to the results of various epidemiological studies, the risk of cervical cancer is highest for women who marry early, have multiple marriages and are of low socio-economic group[3-4]
Comparisons of screened and unscreened women have consistently formed lower incidence and mortality among screened women, and have also demonstrated that more intense the screening efforts, the greater the decline in both incidence and mortality[5-7]
Carlo[8] has summarized the role of Pap smears in reducing the frequency of cervical neoplasia. In Iceland practically 100% of the eligible population is screened every 2-3 years and the incidence of cervical cancer in 1980 had fallen to less than a third of that in 1965. Cramer showed that the fall in mortality in different areas of the United States were also related to the level of screening[9].
The incidence of CIN and microinvasion among Pakistani women is difficult to assess as no screening reports have yet been published. The present study was done to determine the usefulness of assessment of cervical cytology in identifying asymptomic pre-malignant cervical epithelial changes, and to have a preliminary study on a small group of population to initiate the awareness and stress the importance of cervical cytology screening on national basis.

SUBJECT S AND METHODS

All patients (2806) attending the Obstetrics and Gynaecology consulting clinics had a Pap smear taken before a bi-manual pelvic examination. These smears were taken irrespective of their reason for consultation.
The cervical smear was prepared according to the procedure described byPapanicolaou[10]. A bivalve vaginal speculum (Cusocos) was gently inserted into the vagina to expose the cervix. The cervix was

visualised and a cervical scrape was taken from the squamo-columnar junction, anterior and posterior lip of the cervix. The smear was immediately sprayed with a fixative, (Vale Smear Fix) labelled and sent to the ayto pathologist for assessment. A cytological report was available to the patient on her next visit to the clinic.

RESULTS

The cervical smear results are listed in Table 1.

TABLE I. Cervical Smears in 2806 Patients.

S.No.	Total Number of Smears	2806	Percent-age
1.	Total number of adequate smears	2774	98.8
2.	Total number of technically inadequate smear	32	1.1
3.	Total number of Negative smear	2739	97.6
4.	Total number of smears with positive cytology	35	1.26
4a.	C.I.N	34	97.1
4b.	False positive	1	2.8

Out of 2806 smears, cytological reports were inconclusive in 32 smears (1.1%) because of being technically inadequate.

Ages of the patients ranged from 16 upto 70 years (Table II).

TABLE II. Age distribution of 2739 Patients with Negative Smears and 35 with Positive Smears.

No.	Age years	No. of Patients	Percent-age	No. of Dyspla-sias Total =35	Percentage
1.	16–24	471	16.9	3	8.5
2.	25–34	1107	39.9	6	17.1
3.	35–44	733	26.4	14	40.0
4.	45–54	302	10.8	6	17.1
5.	55–64	109	3.9	5	14.2
6.	65–70	52	1.8	1	2.8

Of the women with positive smears 40% were between 35 and 44 years and a further 34% were between 25-34 years and 45-54 years. Thus 74% of abnormal smears were obtained in women between 25-54 years of age.

The youngest patient with positive cytology was 21 years and the oldest 66 years. The positive smears were classified as shown in Table III.

TABLE III. Classification of Abnormal Smears.

S.No	Total No. of Positive Smears	35	Percentage
1.	Mild dysplasia	19	54.2
2.	Moderate dysplasia	06	17
3.	Severe dysplasia and invasive carcinoma	10	28
4.	False positive	01	2.8

Thirty five patients had positive smears (12 .6/1000) confirmed by subsequent histological examination of colposcopic directed biopsies or cone biopsies. In one patient with mild dysplasia the cytology report was considered as false positive (2.8%) as no histological confirmation was obtained on cone biopsy.

This patient was post menopausal and had attended the clinic because of abdominal/pelvic pain.
Out of 35 patients with positive smears only 7 (20%) had symptoms which could be attributed to a pre-invasive or invasive cervical disease. In this group 3 patients had an invasive carcinoma, 1 had perineal and vaginal warts and 3 complained of post coital bleeding. All of these patients were married except one who had been using pill for contraception. Two patients were Europeans.

DISCUSSION

As cervical smears are not routinely performed in Pakistan, results of a screening study on abnormal smears and CIN and its prevalence cannot be obtained. One of the possible reasons for that is the belief that squamous cell carcinoma of cervix is not common among Muslim women.
Knowing the epidemiological factors relating to the etiology of the disease i.e. low socioeconomic class, early marriages, multiparity and poor standard of hygiene, it is difficult to accept this belief. The present argument is further strengthened by two Pakistani studies, on the frequency of malignant disease in Pakistan, which show that carcinoma of cervix is the third biggest killer of women[11-12] Similar beliefs are held about Jewish women[13]. The present incidence of 12.6/1000 abnormal smears is lower compared to Isreali study'3 but this may be a artificially low figure. It is true that we are dealing with a selected population who are theoretically low risk patients. Majority of the patients belong to upper and middle class and therefore carry an inherent bias of health awareness. We therefore cannot extrapolate the incidence of CIN in our population from this data.
This data however re-enforces the facts that the disease (CIN) may be present among asymptomatic women. (80% of women with positive smears were asymptomatic). Pap smears are an effective method of screening for cervical carcinoma in a given population, provided an experienced cytopathologist is available, right instruments (Cuscos speculum and an Ayres spatula) are used. Proper procedure for sampling is followed (our incidence of inadequate smears was only 1.1% which is comparable with other studies[14].
It is therefore recommended that efforts should be made to screen as many women as possible and a cervical cytology screening programme should be a routine in all teaching hospitals. Physicians should encourage female patients to parti. cipate in these programmes. Internists, whe seeing female patients for non-gynaecologic problems, should not miss the opportunity to obtain a Pap smear whenever appropriate.

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