The significance of documenting clinical appearance of the uterine cervix in the cervical cytology form

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ABSTRACT

Objectives: To determine whether or not the Pap smear taker is reporting the clinical appearance of the cervix on the cytology request form, and if cytologist / smear taker are giving any importance to this information prior to issuing advice on subsequent follow-up. Finally, to evaluate the clinicians' response to normal Pap smear report in the absence of the clinical comment on the cervix.

Methods: A retrospective study, for a total of 1196 random smear results performed between 1999 and 2000 at King Fahad National Guard Hospital, Riyadh, Kingdom of Saudi Arabia with its relevant charts were evaluated. The samples were divided into 2 main groups. Group I, the Pap smears sent with the absence of clinical description of the cervix, and group II, was sent with the clinical description of the cervix. Cytologist follow up recommendations and the clinicians' response were evaluated.

Results: A total of 1196 Pap smears were reviewed. Of the total 510 (42.6%) smears represented group I. Vast majority 506/510 (99.2%) were reported to be normal. A 12 months follow up was given for 505/506 (99.8%) smears. Only 4/510 (0.8%) Pap smears were abnormal and relevant cytologist's recommendations were given. Clinicians reassessed the uterine cervix for only 7.7% of the patients in the group. A total of 686/1196 (57.4%) smears represented group II. The vast majority 630 (91.8%) were with normal cervical appearance, 627/630 (99.5%) had normal cytology and only 3/630 (0.5%) had significant intraepithelial lesion. Relevant recommendations were given by the cytologist and were accepted by clinicians. A total of 56/686 (8.2%) had abnormal cervical appearance and 45/56 (80.4%) had normal cytology. A 12 months follow up was recommended for all except 7/45 (15.6%). Clinicians have followed these recommendations for all except 5/45 (11.1%). Eleven out of 56 (19.6%) smears were abnormal, relevant recommendations were given by the cytologist and all were followed by the clinicians.

Conclusion: High proportion of cervical smears request did not report clinical appearance of uterine cervix (42.6%). In patients whose cervical smear was reported abnormal (8.2%), 19.6% of them were found with significant intra-epithelial lesion.

The clinical appearance of the cervix should be documented on the Pap smear request. Follow up recommendation for Pap smears carried out without clinical appearance description should be left to the clinician.

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Since the introduction of the Pap smear in 1943,[1] a dramatic improvement in cervical smear population screening methods has occurred. In 1988, the Bethesda system was introduced to simplify

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categorization of Papanicolaou test results and to establish a uniform reporting and management guidelines.[2] In 2001, the Bethesda committee has produced consensus guidelines for the management of women with cervical cytological abnormalities. These guidelines produced a significant landmark in the progress towards the prevention of cervical cancer. However, the Bethesda guidelines lack the correlation with the clinical judgments on an individualized basis, which makes it impossible for the system to be applied at all situations.[3] Determining which women with cytological abnormalities are at risk of invasive cervical cancer, performing appropriate diagnostic workups and treating cancer precursors are still a major public health challenge.

In a sporadic reports from various parts of the world, women were put at risk due to reporting smears and follow-up advice by the cytologist in which the smear taker did not provide information on the clinical appearance of the uterine cervix.

The aim of this study was to determine whether or not the smear taker is reporting the clinical appearance of the cervix on the cytology request form. And weather the pathologist/cytologist and smear taker are giving any importance to this information, prior to issuing advice on subsequent follow-up smears. Finally, evaluating clinicians' response to normal smear report in the absence of the clinical comment or in the presence of abnormal clinical appearance of the uterine cervix.

Methods. King Fahad National Guard Hospital in Riyadh, Kingdom of Saudi Arabia is a tertiary referral center with a linked primary and secondary health care centers. Although call and recall system for Pap smear screening is not yet established in Saudi Arabia, Pap smear screening is performed for sexually active females during any routine gynecological visit.

During the study period, the hospital cytology department has adopted the Bethesda system in evaluating Pap smears. Pap smears were considered abnormal if were reporting any degree of cellular dysplasia according to the Bethesda system. All smears reported to be abnormal due to any type of infection were excluded from our study.

Adequate Pap smear is considered to be a smear with appropriate labeling, relevant clinical information and adequate number of well preserved, well visualized squamous and endo-cervical/metaplastic cells. Suboptimal smears are smears with limited clinical data, partially obscured with blood or inflammatory cells, smears with thick areas and poor fixation, but still suitable for cytology evaluation and smears with absence of endocervical or metaplastic cells. Unsatisfactory smears such as smears with absence of patient's identification, inadequately preserved smears, scant squamous epithelial component covering less than 10% of the slide, and smears badly obscured by blood or inflammation, thick or poorly fixed were excluded from the study. If atypical cell is detected, the smear is never considered unsatisfactory.

In our gynecological cytology form, there is an area for the clinician to write their clinical comments and another area for the cytologist to write the follow up recommendations. A retrospective study was undertaken aiming to review a random sample of Pap smear forms and its relevant patient's charts. A total of 1196 Pap smear forms carried out between 1999 and 2000 with the relevant patient's charts, were reviewed.

We divided our studied groups into 2 main groups: Group I were patients who had their Pap smears carried out without documenting the clinical appearance of the cervix on the smear request form. Group II were patients who had their Pap smears carried out and the clinical appearance of the cervix was present on the smear request form.

Data collection included the presence or absence of clinical description of the macroscopic appearance of the uterine cervix, on the cytology request form, the smear result according to the Bethesda system, cytologist follow up recommendation and the clinician's decision in response to this recommendation. The medical terms that were used by the smear taker were studied. All the terms indicating suspicion for malignancy (such as friable cervix, ulcerated cervix, irregular, easily bleeding on touch cervix, presence of abnormal vessels, swollen cervix or suspicious cervix for malignancy) were taken into consideration. The patients were followed for a period of one year and the data was then transferred directly into a database program and submitted for statistical analysis.

Results. Out of 1196 reviewed Pap smear forms, 510 (42.6%) were sent for cytology evaluation without any evidence on the clinical appearance of the cervix (group I) and 686 (57.4%) were found with appropriate documentation on the clinical appearance of the cervix (group II).

For group I, the vast majority 506/510 (99.2%) smears were reported to be normal. The cytologist recommended follow up smear after 12 months for 505/506 (99.8%) (**Figure 1**). One patient who had a history of abnormal smear was advised to repeat the smear after 6 months. Only 39/506 (7.7%) had reassessment for their services during the observation period while the rest 447/506 (92.3%) did not have further cervical assessment.

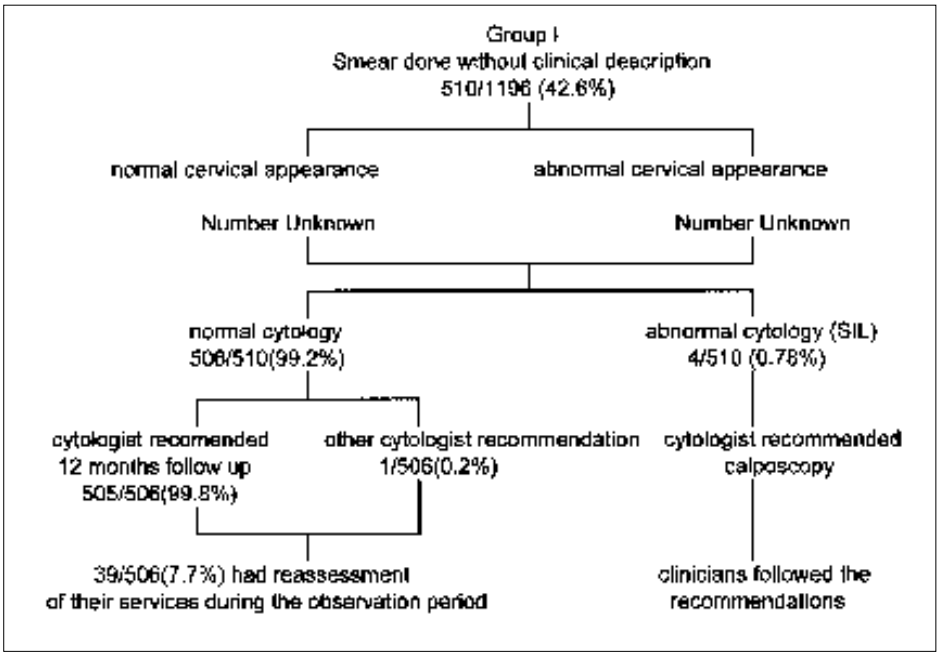

Figure 1 – Follow-up outcome, cytologist recommendations and clinicians response to Pap smear carried out without information regarding the clinical appearance of the cervix.

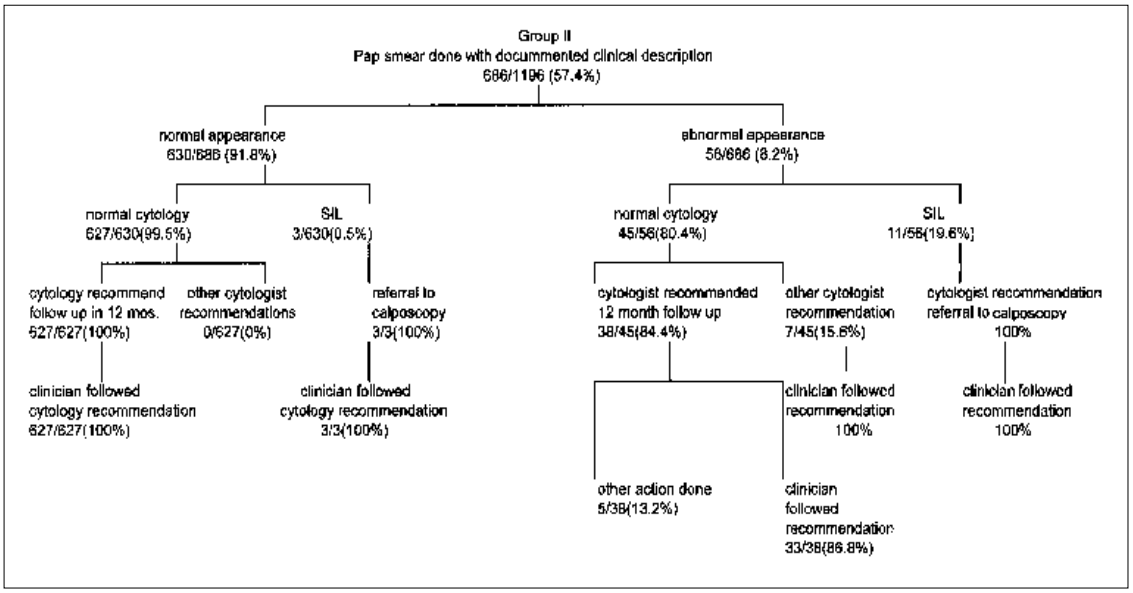

Figure 2 - Follow-up outcome, cytologist recommendation and clinicians response to patients Pap smear carried out with clinical appearance of the uterine cervix documented.

A total of 4/510 smears were found to be abnormal due to different degrees of dysplasia. Those patients were referred to colposcopy clinic by the evaluating clinician and were treated accordingly.

For group II, 686/1196 (57.4%) of smear forms were found with appropriate documentation regarding the clinical appearance of the uterine cervix (**Figure 2**). Of them 630 (91.8%) patients were reported to have normal cervical appearance clinically. For 627/630 (99.5%), their smears were found to be normal and the cytologist recommended follow up smear after 12 months, while 3/630 (0.5%) smears were reported to be abnormal due to different degree of SIL. All clinicians have accepted the cytologist recommendations and patients were referred to colposcopy clinic.

Fifty-six out of 686 (8.2%) smears were sent for cytology evaluation in the presence of clinically

detected abnormal cervical appearance. Forty-five of these smears (80.4%) were found to have normal cytology result. The cytologist recommended repeating the smears after 12 months for 38/45 (84.4%), and earlier follow up after 3-6 months was recommended for 7/45 (15.6%). The treating clinicians have followed the cytologist recommendation for all except 5/45 (11.1%) who had different actions carried out. Eleven out of 56 (19.6%) smears were reported with abnormal clinical appearance of the cervix and found to be abnormal (4 with Atypical squamous cell of undetermined significance (ASCUS), 2 with high grade squamous intraepithelial lesion (HSIL), 3 with low grade squamous intraepithelial lesion (LSIL) and 2 with atypical glandular cell of undetermined significance (AGUS). All patients were referred to a colposcopy clinic by their clinicians.

Discussion. Cancer of the cervix represents a true success story for disease screening and early detection. Early detection of clinical cancer led to a dramatic fall in the incidence of the cancer and reduced mortality rate in all countries where population screening has been introduced.[4-9]

To obtain an optimal smear, ideally, the entire cervix, including the squamo-columnar junction, must be visualized. A satisfactory Pap smear sample usually contains cells from the squamous epithelium of the vaginal portion of the cervix and from the endocervical epithelium. Hence, ideally the clinical appearance of the uterine cervix jointly with the entire squamous epithelium of the vaginal portion should be described on the cytology form.[2]

A negative smear can be found in the presence of an invasive cancer,[10-12] "Watery discharge, or vesico-vaginal fistula, if present, can dilute the smear and hardly any cells can be seen. Inflammation and presence of degenerated cells can make the interpretation more difficult".[13]

The standardization of mass screening programs from the American Cancer Society and earlier case control studies from Denmark, Iceland, Finland, Sweden, Scotland, Italy, Canada and elsewhere,[14-20] did not put emphasis on the importance of reporting cervical smears in the absence of any information on the clinical appearance of the cervix .

We reviewed the Pap smear forms in some of the major health institutes in the Kingdom. Though some of these forms have an area to document the relevant clinical history, others are not and clinicians are sending Pap smears for cytology report after filling non-gynecological cytology forms. Furthermore, in a setup like ours, the clinician who take the smear is not necessary to be the same one who analyzes the cytology report and decide the required actions. This gives reporting the clinical appearance of the cervix even more importance.

As it was clear in our results, high proportion of cervical smears request did not report clinical appearance of uterine cervix (42.6%). In patients whose cervical smear was reported abnormal (8.2%), 19.6% of them were found with significant intra-epithelial lesion. Cytologists build up their recommendations mainly based on the Pap smear result without taking into consideration (in most of the cases) the presence or absence of the clinical description of the uterine cervix. Given this background, and the findings of our study, which showed that almost all patients (505/506) with absent clinical description on their uterine cervixes were advised to repeat Pap smear after one year by the cytologist and this advise was accepted by 92.3% of our clinician who did not re-assess their patients' cervixes. It is clear that there is a serious deficiency in the current Pap smear guidelines.

The methods required to improve this situation are not expensive. They can be simply achieved with adequate education to all personnel responsible for screening programs. Having done this study on our population, it is not unreasonable to think that the problem is widespread and should be of major concern to the screening programs as a whole, both within the developed and developing nations.

Unless cytologists and health professionals, responsible for reporting and advising women on their smear results, correct this major gap, many women will be the unfortunate victims of a deficient screening performance.

There is an urgent need for Pap smear taker education program regarding the importance of documenting the clinical description of the cervical appearance on the Pap smear form. Follow up recommendations for any smear given without information regarding the clinical appearance of the cervix or in the presence of any suspicious clinical description of the uterine cervix should be left to the clinician.

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