Yet a role for papanicolaou test in cervical neoplastic lesions

Carcinoma of the cervix in the past century was regarded as painful and a terrible disease with no way of relief or cure from the disease. However, now thankfully the situation is different, yet many women worldwide are being diagnosed, and their numbers are decreasing in the past 40 years by the introduction of screening programs.

The papanicolaou or “Pap test” as it is often referred to was basically introduced as a screening test for the detection of cervical carcinoma and its precursors. It can, however, be used for diagnosis in known or suspected lesions and for follow-up of recurrence. In communities where it has been adopted at proper intervals, it has served as a good screening test. In spite of this success, in any population studied the test has not eradicated carcinoma cervix. A controlled prospective study for evaluation of Pap test has never been done, but pieces of evidence linked it to the prevention of carcinoma of the cervix. The screening for cervical cancer is done in women at risk for developing cancer. Hence, the Pap test in the true sense is not being used as a screening test as we have already screened the population for a cohort of risk patients. Finally, women who have had a screening Pap test more likely do not develop invasive cancer than women with cancer that did not have a Pap test.

Conventional cervical cytological screening aims at identifying precursor lesions which are not obvious on speculum examination or require colposcopic examination for identification and treatment to prevent progression to carcinoma. With grossly visible changes in some women, the lesion is already malignant. Now applying the cytological technique is a luxury as such lesions need a biopsy for confirmation.

Cytological screening of cervical smears is far from simple and is associated with limitations. False positive diagnosis is less harmful as we triage with colposcopy and biopsy and the diagnostic error on Pap smear is corrected. Efforts are made to avoid false negative diagnosis often attributed to the presence of fewer diagnostic cells or poor quality of smears. We even now find numerous publications elaborating the cytologic features of squamous epithelial lesions on conventional smear cytology.

A more tolerant approach to smear interpretation separates the “conservative” from “aggressive” observers. Although the criteria for the classification of cytologic samples may be spoken out loud and the key findings illustrated, the application of these principles depends on the training, experience, and talent of the observer. Further, the infinite variety of morphologic patterns that may be observed in cervical samples often challenges openly the classical standards of diagnosis.

In many regions of the world access to newer molecular diagnostics is limited. As vaccines do not protect against 30% of cervical cancers especially those not related to human papillomavirus (HPV) 16 or 18 and the duration of protection is unknown, as they are ineffective in treating prevalent HPV infections and the cost of the vaccines might limit their use in some regions, continued Pap screening will remain necessary for many decades.

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