

THE EARLY DIAGNOSIS OF CERVICAL CARCINOMA

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CARCINOMA of the cervix is the commonest of gynecologic neoplasms and emulates carcinoma of the breast as the malignancy occurring most frequently in women. Because of this frequency, its diagnosis and control is within the province of all physicians, not gynecologists alone. With detection methods now generally available, and our present forms of therapy, it is theoretically possible to eliminate carcinoma of the cervix as a cause of death. Practically, we can improve radically our survival statistics.

The above conclusions are based on common knowledge. There is an inverse ratio between the advancement of malignancy at the time of diagnosis and the rate of survival. With patients in whom malignancy is detected early we can expect a survival rate of almost 100 per cent while survival may be nonexistent in the advanced cases. In all reported statistics, the preponderance of cases is in the moderately and far advanced groups. Thus, if we emphasize the importance of early diagnosis, and institute vigorous therapy when carcinoma is first detected, our survival statistics cannot but improve.

We, as physicians, are responsible in part for the toll in life and disability exacted by carcinoma each year; the patient is also at fault. Miller¹ reports a total delay (from onset of symptoms to institution of therapy) of 8.5 months. Doctors are directly responsible for 3 months' delay, and patients for 5.5 months' delay. This assumes greater significance when one recalls that there may be no symptoms of an early cervical carcinoma, and that bleeding, the classical indication, is often a late one. The problem thus becomes two-fold: elimination of procrastination on the part of the patient and avoidance of delay in medical detection. Much is being done to inform lay persons of the need for periodic examinations (once a year until the age of 35, and every six months thereafter), and also the symptoms of uterine malignancy (discharge or bleeding which is irregular, progressive, painless, and frequently subsequent to trauma). The American Cancer Society and allied groups are each year furthering and improving this educational program. Since the greatest factor in patient delay is ignorance of significant symptoms, and general inertia in consulting a physician regularly, these educational efforts are of great importance. However, physicians in general have failed to encourage patient enlightenment and thereby have contributed greatly to the passive attitude regarding frequent examination. We do not want to produce a generation of cancerphobes, but rather an alert, informed public.

Not only must physicians aid in the education of the lay public, but they must remain constantly aware of new diagnostic methods better equipping them to recognize and diagnose the early lesion. At present existing facilities and knowledge are not being utilized to the fullest capacity.

A physical examination, whether undertaken for purposes of insurance,

pre-employment, or yearly check-up should include pelvic investigation. Gynecologic complaints always should be evaluated against such an examination. Patients are inclined to ascribe any vaginal bleeding to menstruation, and hence physicians should be wary of delaying pelvic evaluation because of so-called menstrual flow.

In performing a pelvic examination, inspection of the cervix should be instituted before bimanual examination; in observation prior to manipulation secretions may be obtained, if desired, uncontaminated by lubricants. Cervical swabbing after initial inspection makes possible more critical evaluation. Any area which bleeds on sponging should be viewed with suspicion. Good light and a variety of speculum sizes are obvious necessities.

Schiller suggested swabbing the cervix with iodine to demarcate better suspicious appearing cervical lesions. The normal cervix will stain a deep mahogany color due to glycogen contained in squamous epithelium. Various lesions of the cervix which interrupt the normal continuity of the squamous mucosa do not stain in this manner; carcinomatous lesions are among these. While this test lacks specificity, it is of considerable help to the inexperienced.

When confronted with a lesion which appears suspicious, the most direct and simple method of diagnosis is by biopsy. It is impossible to differentiate early malignancy from benign lesions by inspection alone. The taking of a biopsy specimen is an office procedure, which may be carried out without anesthetic assistance, due to the generally high pain threshold of the cervix. Bleeding usually can be controlled easily by cautery.

A negative biopsy does not exclude the presence of malignancy in the cervix, but only in the tissue examined. Thus, the more tissue obtained the more representative the evaluation; multiple biopsies are consequently more desirable than a single bit of tissue. Biopsies should be repeated when uncertainty exists despite previous negative pathology reports.

It should be remembered that not all cervical neoplasms occur on the face of the cervix; hence, liberal sounding and curettage of the cervical canal should be carried out at the slightest provocation. Bleeding on sounding should be thoroughly investigated. Conization also may be used if biopsy is equivocal or impossible; it is of considerable value if serial blocks are examined and care is exercised in the prevention of excessive heat destruction of the removed tissue.

Confusion and misinformation have attended the subject of vaginal smears in recent years. Countless uteri have been sacrificed on the sole evidence of such specimens and much of the lay public is convinced that cancer readily may be proved existent or nonexistent by the simple smear. There is no doubt that the vaginal smear is valuable in screening large groups, but the interpretation of these specimens is highly technical, and a skill which few people possess at present; neither is it possible to train people in the interpretation of smears in a matter of a few weeks.

The smears theoretically give a more representative picture than do biopsies, since they comprise desquamated cells from the whole genital tract including the entire cervix, whereas biopsies are representative of isolated areas and accuracy is dependent on the proper choice of biopsy site. A smear does,

however, represent a single sampling of vaginal secretion, and thus is subject to error through dilution and difficulty in interpretation. It is now generally agreed that a positive or suspicious appearing smear indicates the need for more thorough investigation (possibly dilatation and curettage and conization), but does not warrant surgical extirpation of pelvic organs; neither does a negative smear guarantee the absence of malignancy. In any event the procurement of such specimens cannot replace a careful pelvic examination and prudent appraisal of untoward symptoms. Where suitable facilities for interpretation are available, smears offer a worth-while method of detection if the foregoing limitations are kept in mind.

Foote and Li² have made an interesting calculation, having estimated the incidence of carcinoma of the cervix in women over 35 to be 1 in 1500. Since two slides are prepared in the average case, and each slide requires about 10 minutes to evaluate adequately, 500 hours of microscopy would be required in order to detect a single case; thus the practicality of this method is dubious for mass screening.

Novak³ asserts that until vaginal cytology becomes a generally available diagnostic aid "the practicing gynecologist who makes full and conscientious use of universally available methods, including biopsies, in the presence of even small suspicious lesions, will not miss many cancers in a still highly favorable therapeutic stage."

Summary

We can improve radically our survival statistics in cervical neoplasms without modification of present treatment methods if we make every attempt to utilize to the fullest extent available knowledge and facilities.

Education of the patient and the physician must be associated closely. Periodic examinations, inspection of the cervix, smears where facilities are adequate and the liberal employment of biopsies combine to make this achievement possible.

References

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2. Foote, F. W. and Li, K.Y.Y.: Smear diagnosis of in situ carcinoma of cervix. *Am. J. Obst. and Gynec.* **56**:335 (Aug.) 1948.
3. Novak, E.: What constitutes an adequate cancer detection examination of cervix? *Am. J. Obst. and Gynec.* **58**:851 (Nov.) 1949.