Editorial Articles

Reflections on cervical cancer

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Summary

The incidence of invasive cervical cancer and consequently mortality decreased due to adequate screening programmes in Canada from 1969 to 2003. Systematic cervical screening programmes similar to those in Europe should be implemented throughout Canada. The new techniques, including a liquid-based cytology, associated or not with identifying human papilloma virus (HPV), allow the best results in prevention and early diagnosis of cervical cancer and high-grade squamous intraepithelial lesions (HSIL). In the future a vaccine against HPV type 16 could reduce the incidence of cervical cancer worldwide.

Key words: Cervical cancer; Screening; HPV.

The Canadian Cancer Society estimates that about 1,350 new cases of cervical cancer and 40 deaths from this cancer will occur in Canada in 2004. In Québec, 270 new cases and 85 deaths are expected; these numbers may be higher due to possible under-reporting to the "Fichier des Tumeurs du Québec". About half of new cases of invasive cervical cancer occur in women who have not had cervical cytology or whose most recent cytology was over five years ago and who, in most cases, presented identical risk factors: sexual relations at an early age and a high number of sexual partners.

In Canada, opportunistic screening is widely practiced and is responsible for a significant reduction in the incidence of cervical cancer, which decreased from 21.6 per 100,000 women in 1969 to 7.9 per 100,000 women in 2003. Mortality has also decreased, from 7.4 per 100,000 women in 1969 to 2.2 per 100,000 women in 2003. Unfortunately, opportunistic screening for cervical cancer contributes to overscreening of some women and inadequate screening of others, usually the ones who are more predisposed to developing this type of cancer.

On several occasions, various study groups have suggested that systematic cervical cancer screening programmes similar to those in Europe, especially in Finland, should be implemented throughout Canada. Such programmes involve various components, including the development of guidelines, public education, informed consent signed by the woman, a proper information system, staff training, identification of the target population, appropriate recruitment procedures and regular interval follow-up of women - especially those at high risk, an acceptable sample of a cervicovaginal smear, laboratories with quality assurance programmes, competent management of abnormal smears and constant evaluation of the quality of the programme itself.

Until now, cervicovaginal smears have been used for cervical cancer screening. This simple and inexpensive test was developed by Papanicolaou and resulted in a significant reduction of mortality due to cervical cancer in countries where the test is widely used. It is interesting to note that cervicovaginal cytology has proven to be the most effective cancer screening test without any randomised study being conducted. The success of opportunistic screening provided arguments to those opposed to setting up systematic screening programmes. However, we must find ways of adequately screening women at high risk who never get tested and reduce overscreening of women who are not at high risk.

Over the last several years new techniques have emerged including a liquid-based cytology, associated or not with identifying human papillomavirus (HPV), and automatic screening systems. Although in 2003 in Canada the National Institute for Clinical Excellence (NICE) recommended that liquid-based cytology be used as the primary means of cervical screening in the country, the conventional smear remains the most frequently used screening test. New screening tests, for which benefit-cost ratios have not yet been demonstrated, could reduce the number of false-negative smears in women who are not at high risk but not in women at high risk. Moreover, compared with conventional smears, there are fewer poor quality smears with liquid-based cytologies. These last two findings have led certain researchers to advocate a combination of liquid-based cytology and DNA-HPV screening in women over 30 years old. This type of screening could increase the detection of high-grade squamous intraepithelial lesions (HSIL), reduce the incidence of cervical cancer, and increase the time period between smears. All these factors could result in substantial savings.

Current clinical research reveals interesting perspectives in the field of prevention. In fact, a vaccine to prevent or even treat HPV infections and dysplastic lesions may be available in the short term. Doctor Richard Winder of the United Kingdom's National Health Services Cancer Screening Programme stated in Ottawa that he expects HPV vaccines to be available within five years. In his opinion, a vaccine against human papilloma virus type 16 would reduce the worldwide incidence of cervical cancer by 57%, offer greater protection than cytology, and have a decisive impact on systematic cervical cancer screening programmes. In a study by Lowy published in 2003 [5], HPV type 16 was present in 57.6% of cervical cancers. In 2002, Koutsky *et al.* reported vaccine efficacy of 100% in a group of women aged 16 to 23 years after a 15-month follow-up.

Although invasive cervical cancer is almost a 100% preventable disease it is still responsible for a large number of deaths all over the world; 500,000 women are diagnosed annually with invasive cervical cancer and 250,000 die. Eighty percent are diagnosed in underdeveloped countries. A reduction of mortality of 80% can be attained with a well organised screening programme. Therefore, cervical cancer screening programmes should be organised worldwide using the most recent technology, if possible and available. It is my hope that health authorities as well as political authorities of the different countries become aware of this great possibility.

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