Cervical cytology and colposcopy in clinics for sexually transmitted diseases—when are they appropriate?

The purpose of cervical cytology and colposcopy is to avoid the development of cervical cancer by detecting and treating high grade cervical intraepithelial neoplasia (CIN 2 and 3). This prevention of cervical cancer is best achieved through a coordinated cytology recall programme, with the widest possible coverage of the female population, rather than by increasing the frequency of screening for a small percentage of women.¹ For the women with cytological abnormalities colposcopy is then indicated as this identifies the high grade CIN, which can be easily and effectively treated in the majority of cases.

It was 150 years ago that Rigoni-Stern noted the relationship between sex and cervical cancer, so when the Government’s screening policy only included women aged over 35 years, it was appropriate that 47% of sexually transmitted disease clinics in the United Kingdom were screening all new patients (opportunistic screening).² Throughout the 1980s these clinics also started to provide colposcopy services to continue the management of women with cytological abnormalities.³-⁵ By 1990, 60 out of 189 clinics provided a colposcopy service.⁶

In 1988 the UK National Health Service (NHS) Cervical Screening Programme of computerised call and recall for women registered with general practitioners, aged 20 to 64 years, was introduced. By March 1995, 85%-73% of such women had been screened within the previous five years.⁷ It has been estimated that this screening has prevented thousands of cases of invasive cervical cancer.⁸

In view of the change in cervical screening policy and the success of the current programme, the time is right for a critical look at cytology and colposcopy within genitourinary medicine. Cervical cytology has its limitations and it is widely recognised that false negative smears occur. It has therefore been suggested that certain groups of “high risk” women should have increased surveillance, either by increased frequency of cytology examination or by colposcopy. If these groups really are “high risk” significantly increased rates of moderate and severe dyskaryosis would be found on cytology, or CIN 2 and 3 on colposcopy.

Some have suggested that opportunistic cytology screening of all new attenders is still appropriate because of high abnormality rates. Dhar et al.⁹ report a 6% incidence of moderate and severe dyskaryosis in their patients. Unfortunately they had no control group for comparison, but this is well above the national average.¹⁰ Others feel that selective screening of women with no previous smear would be more appropriate as the screening programme would be likely to detect the others at their next recall.¹¹ For Dhar et al.¹² this policy would have given a 10-4% incidence of moderate and severe dyskaryosis.

At the clinic in Leeds the rates of borderline/mild dyskaryosis and moderate/severe dyskaryosis for women, aged under 30 years, screened between January 1993 and December 1995, were 10-6% and 1-8% respectively. The corresponding figures for the district screening programme were 6-7% and 1-7% (A Pouncey, Leeds FHS, personal communication). On the basis of finding a higher rate of minor cytological abnormalities only, a policy of screening all new patients cannot be justified in this clinic. Colposcopy examination of all new patients attending genitourinary medicine clinics (primary colposcopy) has also been suggested. The CIN 2 and 3 rates of 1%,¹³ and 3-7% of those with an abnormal transformation zone,¹⁴ do not support the use of this for the prevention of cervical cancer.

The case against cytology screening in women under 20 is discussed in this issue. At present the evidence does not favour screening but as the number of deaths from cervical cancer in younger women is increasing, it is important that we keep the topic under review as the balance may change.

Women with genital warts have shown higher rates of cytological abnormalities (including moderate and severe dyskaryosis) than controls, even in recent studies.¹⁵ Colposcopy studies of women with vulval warts, performed before widespread cytology screening began, showed high levels (16-9%) of CIN 2 and 3,¹⁶ but more recent studies have shown much lower levels of 0-3-5%.¹⁷ In the one study with a control group there was no difference in the colposcopy findings of the women with warts and the controls.¹⁸ The NHS Cervical Screening Programme guidelines¹⁹ recommended that women presenting with vulval warts should have a cervical smear taken and the result should determine whether or not colposcopy is needed. The recent studies certainly support this.

Although vulval warts are not an indication for colposcopy, exophytic cervical warts probably are. In one study 4 out of 34 women (11-8%) with exophytic cervical warts had CIN 2.²⁰ In 2 out of the 4 cytology was negative. If treatment of the warts with cryotherapy is being contemplated, then it is essential that high grade CIN has first been excluded.

Women who are HIV positive have a five fold increased risk of developing CIN.²¹ This increased risk appears to be related to HIV induced immunosuppression.²² HIV infected women therefore do warrant increased surveillance but the optimum frequency and method (that is, cytology or cytology plus colposcopy) have not yet been determined.

The NHS Cervical Screening Programme recommendations for colposcopy are moderate and severe dyskaryosis and a clinically suspicious cervix. It is suggested that a mildly dyskaryotic smear be repeated six months later, with colposcopy then if still abnormal. Since the publication of these guidelines further evidence has suggested that immediate colposcopy might be more appropriate.²³ ²⁴ The idea of cytological surveillance is based on the premise that wart virus infection and low grade CIN often spontaneously revert to normal. However, mild dyskaryosis is not specific, histology may show no abnormality, all grades of CIN or even invasive cancer. It is therefore of poor predictive value for low grade disease. Immediate colposcopy and treatment of CIN 2 and 3 potentially does overtreat 15% of women.²⁵ However, even within the setting of a clinical trial, the default rate for cytological surveillance was high, 10% at
In conclusion, to decide when cytology and colposcopy are appropriate we should remember their aims. Excessive detection of minor cytological changes and low grade CIN only serve to cloud the issue, whilst causing anxiety to the women. We should use these investigations to optimise the prevention of invasive cancer but at the same time minimise the over-diagnosis of clinically insignificant disease.