

Editorial

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, 85.7% 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.⁷ 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.¹⁰ For Dhar *et al*⁹ 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 FHSA, 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%,¹¹ and 3.7% of those with an abnormal transformation zone,¹² 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.¹³ Colposcopy studies of women with vulval warts, performed before widespread cytology screening began, showed high levels (16.9%) of CIN 2 and 3,¹⁴ but more recent studies have shown much lower levels of 0-3.3%.¹⁵⁻¹⁷ In the one study with a control group there was no difference in the colposcopy findings of the women with warts and the controls.¹⁵ The NHS Cervical Screening Programme guidelines¹⁸ 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 2.¹⁹ 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.²⁰ This increased risk appears to be related to HIV induced immunosuppression.²¹ 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.²²⁻²⁴ 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.²³ However, even within the setting of a clinical trial, the default rate for cytological surveillance was high, 10% at

six months and 23% at two years. Inadequate follow up after mild dyskaryosis results in a higher risk of cancer in that 4% of women with microinvasive, and 5% of women with fully invasive cancer, had inadequate follow up of borderline or mild dyskaryosis compared with 0.5% of controls.⁸ Also the risk of invasive cancer despite cytological surveillance for mild dyskaryosis has been calculated to be increased 16–47 times.²⁴ Decision analysis of the management of mild dyskaryosis concluded that 65% of women under cytological surveillance would eventually need colposcopy, and, taking into account the costs of the extra visits and cytology, no financial saving would result.²²

The addition of a secondary screening technique such as semi-quantitative HPV DNA detection by PCR may prove helpful in distinguishing those likely to have high grade CIN, as intermediate and high amounts of high risk HPV types have been found to be significantly associated with high grade CIN.²⁵ A recent editorial in this journal discussed HPV testing in detail and concluded that large prospective randomised trials need to be undertaken to assess the value of HPV testing in the management of women with low grade cytological abnormalities.²⁶ So until such secondary tests have been evaluated and shown to have good predictive values for differentiating low and high grade CIN, the weight of evidence is currently in favour of immediate colposcopy for mild dyskaryosis.

For those using The Bethesda System for reporting cervical cytology, interim guidelines for the management of abnormalities have also been published.²⁷ These give the option of either cytological surveillance or immediate colposcopy for low-grade squamous intraepithelial lesions (LSIL), and atypical squamous cells of undetermined significance (ASCUS).

Although the majority of genitourinary medicine clinics in the United Kingdom perform treatment, only 11% operate a "see and treat" policy.²⁸ If immediate colposcopy is undertaken for mild dyskaryosis, ASCUS or LSIL a "see and treat" policy of large loop excision of the transformation zone (LLETZ) at first colposcopy is not recommended because of the high incidence of overtreatment.^{27, 29}

Used in the right circumstances, cervical cytology and colposcopy will always remain important investigations in our specialty. This way they can be justified clinically, epidemiologically and financially. The National Screening Programme guidelines suggest that introduction to cytology screening may be on an opportunistic basis for those aged 20–25 years, but having had an initial screen such women should be incorporated into the standard call/recall system.¹⁸ So women never previously screened or those who have defaulted follow up (particularly of a previous abnormality) should be screened opportunistically. So should women with a clinically suspicious cervix. Immunosuppressed HIV positive women should have increased frequency of smears; exactly how often is not known but at least annually is recommended. Also, some recalled women will choose to attend our clinics for their smears. As long as the results of these smears are incorporated into the computerised system, there is no risk of them being repeated unnecessarily.

The Council of the Medical Society for the Study of Venereal Diseases produced *Guidelines on Cervical Cytology, Confidentiality and GUM Clinics*. Whilst recognising a woman's right to confidentiality it recommends that efforts should be made to obtain consent to inform the general practitioner, particularly if the result is abnormal. A survey in 1991 showed that the majority of clinics did not routinely inform GPs of cytology results and 15% did not inform GPs of abnormal results.³⁰

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.

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- Parkin DM, Moss SM. An evaluation of screening policies for cervical cancer in England and Wales using a computer simulation model. *J Epidemiol Community Health* 1986;40:143–53.
- British Co-operative Clinical Group. Cervical cytology screening in sexually transmitted disease clinics in the United Kingdom. *Genitourin Med* 1987;63:40–3.
- Alawattegama A. Screening for cervical intraepithelial neoplasia and cancer in the Sheffield STD clinic. *Br J Venereal Dis* 1984;60:117–20.
- Wilson JD, Hill AS, Hicks DA. Value of colposcopy in genitourinary departments. *Genitourin Med* 1988;64:100–2.
- Byrne MA, Taylor-Robinson D, Anderson MA, Mason P, Harris JRW. Value of colposcopy in sexually transmitted disease clinics based on first year's experience. *Genitourin Med* 1989;65:42–5.
- Williams O, Bodha M, Hicks D, Alawattegama A. Survey of colposcopy service provided by genitourinary medicine in England and Wales. *Br J Obstet Gynaecol* 1992;99:150–2.
- DOH Statistical Bulletin 1996/3 February 1996 Cervical Screening Programme, England: 1994–95.
- Sasiemi PD, Cuzick J, Lynch-Farmery E and the National Co-ordinating Network for Cervical Screening Working Group. Estimating the efficacy of screening by auditing smear histories of women with and without cervical cancer. *Br J Cancer* 1996;73:1001–5.
- Dhar J, Bradley M, Alawattegama A. Opportunistic cervical cytology screening in a genitourinary medicine department: is it worthwhile? *Genitourin Med* 1993;69:479–80.
- Carlin EM, Barton SE. Opportunistic cervical cytology screening in a genitourinary medicine department: is it worthwhile? *Genitourin Med* 1994;70:229.
- Nathan PM, Moss TR. Screening colposcopy in genitourinary medicine. *Int J STD AIDS* 1991;2:342–5.
- Moss TR, Hawkswell J, Fogarty B, Dadswell C. The value of primary colposcopy in genitourinary medicine—a six year review. *Genitourin Med* 1994;70:191–5.
- Rowen D, Carne CA, Sonnex C, Cooper P. Increased incidence of cervical cytological abnormalities in women with genital warts or contact with genital warts: a need for increased vigilance? *Genitourin Med* 1991;67:460–3.
- Walkinshaw SA, Dodgson J, McCance DJ, Duncan ID. Risk factors in the development of cervical intraepithelial neoplasia in women with vulval warts. *Genitourin Med* 1988;64:316–20.
- Griffiths M, Sanderson D, Penna L. Cervical epithelial abnormalities among women with vulval warts—no more common than among controls. *Int J Gynecol Cancer* 1992;2:49–51.
- Ward KA, Houston JR, Lowry BE, Maw RD, Dinsmore WW. The role of early colposcopy in the management of females with first episode of anogenital warts. *Int J STD AIDS* 1994;5:343–5.
- Coker R, Desmond N, Tomlinson D, Bretherton K, Byrne M. Screening for cervical abnormalities in women with anogenital warts in an STD clinic: an inappropriate use of colposcopy. *Int J STD AIDS* 1994;5:442–4.
- Duncan ID. *NHS Cervical Screening Programme: Guidelines for Clinical Practice and Programme Management*. March 1992.
- Murphy M, Fairley I, Wilson J. Exophytic cervical warts—an indication for colposcopy? *Genitourin Med* 1993;69:81–2.
- Mandelblatt JS, Fahs M, Garibaldi K, Senie R, Peterson HB. Association between HIV infection and cervical neoplasia: implications for clinical care of women at risk for both conditions. *AIDS* 1992;6:173–8.
- Schafer A, Friedman W, Mielke M, Schwartzlander B, Koch M. The increased frequency of cervical dysplasia—neoplasia in women infected with human immunodeficiency virus is related to the degree of immunosuppression. *Am J Obstet Gynecol* 1991;164:593–9.
- Johnson N, Sutton J, Thornton JG, Lilford RJ, Johnson VA, Peel KR. Decision analysis for best management of mildly dyskaryotic smear. *Lancet* 1993;342:91–6.
- Flannely G, Anderson D, Kitchener HC, Mann EMF, Campbell M, Fisher P, et al. Management of women with mild and moderate cervical dyskaryosis. *BMJ* 1994;308:1399–403.
- Soutter WP, Fletcher A. Invasive cancer of the cervix in women with mild dyskaryosis followed up cytologically. *BMJ* 1994;308:1421–3.
- Cuzick J, Terry G, Ho L, Hollingworth T, Anderson M. Type-specific human papillomavirus DNA in abnormal smears as a predictor of high-grade cervical intraepithelial neoplasia. *Br J Cancer* 1994;69:167–71.
- Etherington IJ, Shafi MI. Human papillomaviruses and cervical screening. *Genitourin Med* 1996;72:153–4.
- Kurman RJ, Henson DE, Herbst AL, Noller KL, Schiffman MH. Interim guidelines for management of abnormal cervical cytology. *JAMA* 1994;271:1866–9.
- Shen RN, Hicks DA, Cruickshank ME. Colposcopy services provided by Genitourinary Medicine clinics in the United Kingdom—British Society for Colposcopy and Cervical Pathology/National Co-ordinating Network Survey, 1993. *Int J STD AIDS* 1996;7:98–101.
- Stratton JF, Lenehan P, Robson MS, Murphy JF, Kelehan P, Boylan PC. Negative histology after large loop excision of the transformation zone. *Br J Obstet Gynaecol* 1994;101:821.
- Malet R, Young SM. 1991 Survey of cervical cytology in English genitourinary medicine clinics. *Genitourin Med* 1992;68:198.