

# Use of the cervicoscope in general practice

DEBORAH COLVIN

## SUMMARY

The cervicoscope, a camera that takes a photograph of the cervix, has been designed in America by Staff to increase the sensitivity and specificity of cervical cancer screening. There are no reports of its use in British general practice. This study found the cervicoscope easy to use in general practice and acceptable to patients. The number of abnormal screening results increased. The technique failed to detect a woman with carcinoma-in-situ.

*Keywords:* cervical screening; cervicography; colposcopy.

## Introduction

THE cervicoscope is a camera with a fixed telephoto lens that takes a photograph of the cervix; this photograph is then reviewed by a colposcopist. The cervicoscope was designed in America by Staff in the hope that it would increase the sensitivity of cervical screening when used in combination with cervical cytology.

It has been suggested that use of the cervicoscope is a more cost-effective method of screening for cervical cancer than Papanicolaou smears,<sup>1,2</sup> and the cervicoscope is now used routinely by many practitioners in America as a primary screening tool or as an adjunct to cervical cytology.<sup>3</sup> There are no reports of its use in general practice in the United Kingdom (UK). This study aimed to examine both the feasibility and the acceptability of this tool in general practice.

## Method

### Selection

Women consecutively attending an inner-city general practice in 1988 for a routine cervical smear were invited to enter the study. The women were seen by either the general practitioner (GP) or the practice nurse depending on the time they attended for their examination. The GP took 67 pictures and the practice nurse took 43. The consultant who reviewed the photographs had previously shown the GP how to use the camera during outpatient clinics. The GP had then demonstrated the technique to the practice nurse for three patients.

### Technique

The cervix was revealed using a speculum. After taking a smear and wiping clean the cervix, acetic acid 5% was applied. After two minutes, and a second application of acetic acid, a photograph was taken using the cervicoscope. The cervix was then re-photographed after being prepared with iodine, and the resulting photographs were reviewed blind by a skilled colposcopist at x16 magnification. The cervicographs were divided into normal, minimal lesions, human papilloma virus (HPV) changes, minor lesions and definite lesions. Women with minor or definite

lesions were offered colposcopy. Those with minimal lesions were followed up by smear or repeat cervicography, or both.

### Follow up

The women were followed up for five years by reviewing their cervical cytology records.

## Results

One hundred and ten women attended for routine cervical smears and all agreed to enter the study. The procedure was found acceptable; it took eight minutes longer than a normal smear. There were no unsatisfactory smears but eight unsatisfactory photographs. The practice nurse took 43 cervicographs (three of them unsatisfactory) and the GP took 67 (five of them unsatisfactory). The results of the smear tests are compared with those from the cervicographs in Table 1.

Of those attending, 84.5% of the women had a normal smear result and 64.5% had a normal cervicogram. The cervicogram failed to detect one woman in the study who had carcinoma-in-situ. A measure of agreement between the two tests was calculated using Cohen's kappa (Table 2). The results indicate only a fair agreement between the two tests.

The author cannot comment on the relative accuracy of the two methods. From this analysis some information about reliability can be obtained from the five-year cytology follow-ups. Three of the 20 women with normal smears but abnormal cervicographs were lost to follow-up. Of the remaining 17, three were treated at the time of the study, biopsy results being CIN1 (2) and CIN2 (1). Thirteen of the remaining 14 (92%) were normal at five years with no intervening treatment. One woman had an inflammatory smear at five years. One woman had a normal cervicogram but a smear showing carcinoma-in-situ.

## Discussion

The cervicoscope was easy to use and acceptable to patients. There was a failure rate of 6%, which compares favourably with other studies.<sup>4</sup>

Use of the cervicoscope increased the number of women who were told they had an abnormality of their cervix. Within the limits of the study the five-year follow-up did not demonstrate that this was because the smear was missing abnormalities. Such an increase must be of concern without clear evidence of increased detection of significant disease. The cervicoscope did detect a woman with a normal smear who had CIN2 on colposcopy confirmed by biopsy.

The issue of quality control and standardization of the reading of cervicographs was not addressed when the study was undertaken. This made interpreting the results difficult in some cases and demonstrated how important the issue is, especially as a system of tight control might have resulted in the cervicograph detecting the woman with carcinoma-in-situ.

Pending more formal studies to assess the sensitivity and specificity of cervicography, this study implies that the technique should not at present be introduced into routine general practice.

## References

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Deborah Colvin, MBBS, MRCP, DRCOG, general practitioner and lecturer, Department of General Practice and Primary Care, Joint Medical Colleges of St Bartholomew's and the Royal London Hospitals. Submitted: 23 January 1996; accepted: 28 August 1996.

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**Table 1.** Results of cytology compared with those from cervicography.

Cytology result	Cervicograph result						Total
	Normal	Minimal lesions	HPV changes	Minor lesions	Definite lesions	Unsatisfactory	
Normal	66	7	5	4	4	7	93
Inflammatory	3	1	3	0	0	0	7
HPV	1	0	1	0	0	1	3
CIN1	0	0	0	2	2	0	4
CIN2/3	0	0	0	0	2	0	2
Carcinoma	1	0	0	0	0	0	1
	71	8	9	6	8	8	110

**Table 2.** Kappa for smears compared with cervicographs.

Agreement	Expected agreement	Kappa	z	Pr Z
70.59%	59.78%	0.2686	4.85	0.0000

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\* NTL processing UK Ltd, 108 Mount View Road, London N4 4JX.

**Address for correspondence**

Dr Deborah Colvin, The Lawson Practice, St Leonards, Nuttall Street, London N1 5HZ.