

Controversy in Colposcopic Management: A Canadian Survey

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Abstract

Objective: The substantial reduction in cervical cancer mortality over the last 40 years is attributed to the use of Papanicolaou cervical smear screening with subsequent colposcopic assessment and treatment. Although there is consensus regarding colposcopic management of high-grade intraepithelial cervical lesions, optimal management of patients with low-grade (LG) lesions is less clear. Our goal was to document the colposcopic management of the latter group in Canada.

Methods: A survey was mailed to 252 colposcopists in seven Canadian provinces who recommended management for colposcopy scenarios. Responses were reported in aggregate form.

Results: A total of 120/252 (48%) completed questionnaires. Most respondents were 41 to 50 years old, and 68% were male. For women found on colposcopy to have no evidence of a low-grade cervical LG lesion, 43% recommended discharge from colposcopy, and 53% recommended repeat colposcopy. For referrals with a biopsy-confirmed LG lesion, 13% recommended discharge to cytological follow-up, 65% recommended repeat colposcopy, and 16% recommended treatment. Following excisional treatment of LG lesions with negative margins, 13% recommended discharge to cytological follow-up, and 69% recommended further colposcopy.

Conclusion: These results demonstrate wide variation in management of low-grade cervical lesions among Canadian colposcopists and highlight the need to establish evidence-based management protocols.

Résumé

Objectif : La diminution significative, au cours des 40 dernières années, des décès dus au cancer du col est attribuée à l'utilisation du dépistage par frottis de Pap, ainsi qu'à l'évaluation et au traitement subséquents par colposcopie. Bien qu'il y ait consensus quant à la prise en charge colposcopique des lésions cervicales intra-épithéliales de haut degré de malignité, la prise en charge optimale des patientes présentant des lésions de faible degré de malignité est plus ambiguë. Notre objectif est de documenter la prise en charge colposcopique de ce dernier groupe au Canada.

Key Words: Colposcopy, management, atypical squamous cell, low-grade intraepithelial lesion, high-grade intraepithelial lesion, Bethesda System

Competing Interests: None declared.

Received on July 28, 2005

Accepted on October 12, 2005

Méthodes : Un sondage a été envoyé à 252 colposcopistes dans sept provinces canadiennes, afin de connaître leurs recommandations en matière de prise en charge relativement aux scénarios qui leur ont été présentés. Les réponses ont été regroupées.

Résultats : Au total, 120 des 252 participants (48 %) ont rempli le questionnaire. La plupart des répondants étaient âgés de 41 à 50 ans, et 68 % étaient des hommes. Dans le cas de femmes chez qui l'examen colposcopique n'a révélé aucune trace de lésions cervicales de faible degré de malignité, 43 % des participants ont recommandé la mise sous observation, alors que 53 % ont recommandé la reprise de l'examen. En ce qui a trait aux cas orientés à la suite d'une biopsie confirmant la présence de lésions de faible degré de malignité, 13 % des participants ont recommandé un suivi cytologique, 65 % ont recommandé la reprise de l'examen, et 16 % ont recommandé le traitement. Suivant l'excision avec marges négatives des lésions de faible degré de malignité, 13 % des participants ont recommandé un suivi cytologique, et 69 % ont recommandé la pratique d'un autre examen colposcopique.

Conclusion : Ces résultats montrent une grande variation sur le plan de la prise en charge des lésions cervicales de faible degré de malignité chez les colposcopistes canadiens. Ils montrent aussi la nécessité de mettre en place des protocoles de prise en charge factuels.

J Obstet Gynaecol Can 2006;28(1):36-40

INTRODUCTION

Cervical cancer is the 12th most frequently diagnosed cancer amongst Canadian women, accounting for 1.9% of new cancers and 1.2% of cancer-related deaths in 2005.¹

Currently, the age-standardized incidence and mortality rate are 8 and 2 per 100 000 women, respectively.¹ These figures contrast dramatically with the 1969 incidence of 21.6 per 100 000 women and mortality rate of 7.4 per 100 000 women. These reductions have been largely attributed to the use of Papanicolaou (Pap) cervical smear screening to detect precursor squamous lesions.¹

The Bethesda System (TBS) for reporting Pap smears, introduced in 1988 and modified in 1991² and 2001,³ is the recommended reporting terminology in Canada.⁴ TBS

designates the Pap smear as either “negative for intraepithelial lesion or malignancy,” or “epithelial cell abnormality.” The latter includes atypical squamous cells of undetermined significance (ASC-US), low- and high-grade squamous intraepithelial lesion (LSIL and HSIL), atypical squamous cells—cannot rule out HSIL (ASC-H), atypical glandular cells (AGC), squamous carcinoma, and adenocarcinoma.⁵ There is consensus that women with HSIL should undergo colposcopic assessment, with diagnosis and treatment of the cervical lesion based on the histopathology. Colposcopic management of persistent ASC-US/LSIL, however, is less clear. In Alberta, women with ASC-US or LSIL have surveillance Pap tests and undergo colposcopy only if the lesion persists or progresses. After the initial colposcopy, management is not standardized, and the protocols in use are empirical and not evidence-based. The protocols are variable and include follow-up colposcopy or immediate discharge to the primary care provider. Combinations of some follow-up colposcopy and later discharge are also used. There is some evidence that testing for human papilloma virus (HPV) may have a role in postcolposcopy management. Guido and colleagues⁶ underscored the need for optimization of postcolposcopy management strategies utilizing data from the ASC-US LSIL Triage Study (ALTS).^{7,8} They initiated a two-year prospective follow-up of 1539 women that was designed to assess the sensitivity of different colposcopy management strategies for detecting cervical intraepithelial neoplasia (CIN) grade 2 or 3 and the percentage referral to repeat colposcopy. Although the study was not a randomized clinical trial, they found that an HPV test at 12 months was the single test with the highest sensitivity (92%) and the lowest referral to repeat colposcopy (55%).

The goal of our study was to document management (using colposcopy) of ASC-US and LSIL among Canadian colposcopists, with the aim of establishing evidence-based management protocols in future studies.

METHODS

A colposcopy management survey was formulated and sent to 252 colposcopists in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland and Labrador. The survey contained multiple-choice questions that described a clinical scenario followed by multiple management options. Pap smear results prompting referrals to colposcopy were described as being low grade (i.e., mild dysplasia, condyloma, CIN I, ASC-US, LSIL, HPV change), and high grade (i.e., severe dysplasia, CIN II/III, CIS, HSIL, possibly microinvasive lesion). Participants were asked to choose the best initial step in management for each colposcopy referral (the

Example of Survey Questions

For patients with **low-grade** referrals to colposcopy (i.e., mild dysplasia, condyloma, CIN 1, ASC-US, LSIL, HPV change), with a final **colposcopic diagnosis** being tissue-confirmed **low-grade** lesions (i.e., mild dysplasia, condyloma, CIN 1, LSIL, HPV change), your best initial step in management is:

- discharge to cytological follow-up with a healthcare provider
- repeat colposcopy (please specify below), in
 - 1–3 months
 - 3–6 months
 - 6–9 months
 - 9–12 months
 - > 12 months
- perform a diagnostic LEEP
- see and LEEP
- perform cryotherapy
- perform laser ablation
- perform a cone biopsy
- request a pathology review
- other (please specify) _____

Figure shows an example of a multiple-choice question related to a specific clinical scenario).

The survey was initially sent to members of the Department of Obstetrics and Gynaecology at the University of Calgary and was modified on the basis of their comments. The revised survey was mailed in March 2004. For confidentiality reasons, responses were not linked to names and addresses except to avoid re-sending the questionnaire to those who had already replied. Results were entered into a spreadsheet program (Excel, Microsoft Corp., Redmond, WA) and reported in aggregate form. If participants chose more than one management option, their responses were excluded from the data set.

RESULTS

Of the 252 recipients, 120 (48%) completed the survey (25.8% BC, 9.2% AB, 2.5% SK, 11.7% MB, 30.8% ON, 15.8% QC, 4.2% NL). Most respondents were aged between 41 and 50 years, 68% were male, and 76% said they followed written guidelines from organizations and professional groups. More than 50% of respondents (62/120) indicated they had at least 15 years' experience practising colposcopy.

A: Low-Grade Referrals

Table 1 shows management results for patients with low-grade referrals to colposcopy (i.e., mild dysplasia, condyloma, CIN I, ASC-US, LSIL, HPV change). There was wide variation among respondents in the management

Table 1. Colposcopic management of low-grade referrals

	Management Option			
	Discharge from colposcopy %	Repeat colposcopy %	Treatment %	Pathology review %
Negative colposcopy	43	53	0	0
Confirmed low grade	13	65	16	0

Treatment: loop electrosurgical excision procedure (LEEP), cryotherapy, laser therapy, or cone biopsy.

of negative and confirmed low-grade groups: 43% recommended discharge from colposcopy for low-grade referrals with a diagnosis negative for a cervical low-grade lesion, and 53% recommended repeat colposcopy. For patients with low-grade referrals who had a low-grade lesion confirmed by biopsy, 13% recommended discharge to cytological follow-up, 65% recommended repeat colposcopy, and 16% recommended treatment.

Following treatment for low-grade lesions (consisting of loop electrosurgical excision procedure [LEEP], cone biopsy, or other procedure), with negative endocervical and ectocervical margins, 13% recommended discharge to community follow-up, and 69% recommended further colposcopy. When margins were positive, none recommended discharge to community follow-up; 84% recommended further colposcopy.

B: High-Grade Referrals

In Table 2, we show management results for patients with high-grade referrals to colposcopy (i.e., moderate/severe dysplasia, CIN II/III, CIS, HSIL, possibly microinvasive lesion). For patients in the group with negative findings, 54% of respondents recommended repeat colposcopy, 18% recommended treatment, and 26% requested a pathology review. For patients in the confirmed low-grade group, there was an even distribution of those who recommended further colposcopy and those who recommended treatment. Only 5% requested a pathology review. No recommendations to discharge from colposcopy were made in the negative colposcopy and confirmed low-grade groups.

Following treatment for high-grade lesions, with margins fully negative, 4% recommended discharge to community follow-up, and 79% recommended further colposcopy. With margins positive, none recommended discharge to community follow-up, and 78% recommended further colposcopy.

DISCUSSION

To our knowledge, this is the first survey to document management strategies of ASC-US and LSIL among

colposcopists in Canada. Our study confirms that there is variation in management of low-grade lesions. Specifically, the results show that for patients with low-grade referrals, the number of respondents who would recommend discharge to community follow-up and the number who would recommend colposcopy were nearly equal, despite the lesion being confirmed negative. Following excisional treatment for low-grade lesions, and despite margins being fully negative, almost 70% of respondents recommended further colposcopy. These results highlight the reluctance of many colposcopists to refer patients with these lesions back to community cytology.

The study also demonstrates variability in the post-colposcopy management of HSIL. For patients with high-grade referrals to colposcopy who have a confirmed negative lesion, 54% of respondents would recommend repeat colposcopy, 18% would recommend treatment, and 26% would request a pathology review. For patients with high-grade referrals who had a biopsy-confirmed low-grade lesion, 40% recommended repeat colposcopy, and 42% recommended treatment. Of note, discharge from colposcopy was not recommended for either group.

Variations in medical management may be confusing for nursing staff who explain physicians' management recommendations to patients, particularly when the recommended management ranges from discharge with community follow-up to surgical procedures that may affect cervical integrity during pregnancy.⁹ Additionally, variations in management may be costly to the health care system if a more expensive treatment option without proven benefit is carried out. Finally, wide variations in management may hamper quality assessment.

The controversy in colposcopic management of ASC-US and LSIL becomes important when one considers that most of these low-grade lesions will regress spontaneously.¹⁰ Previous studies have shown that 20% to 60% of ASC-US changes are associated with CIN at colposcopic evaluation, with the majority (>70%) of these lesions being CIN I, a sign of usually benign HPV infection.^{11–15} Alanen et al.¹⁶ reviewed records of women with Pap smears

Table 2. Colposcopic management of high-grade referrals

	Management Option			
	Discharge from colposcopy %	Repeat colposcopy %	Treatment %	Pathology review %
Negative colposcopy	0	54	18	26
Confirmed low grade	0	40	42	5

Treatment: loop electrosurgical excision procedure (LEEP), cryotherapy, laser therapy, or cone biopsy.

reported as either ASC-US or LSIL who did not have a history of dysplasia and tracked their cytologic and colposcopic follow-up over a two-year period. They found that 78.6% of the ASC-US patients and 45.3% of the LSIL patients reverted to benign cytology and that 70% of the patients could have been spared colposcopy. To further confuse the issue, women often have atypia in cervical cytology that is due to cellular changes not related to HPV or to neoplasia. Potential causes for these changes include cervical trauma from intercourse, cervical–vaginal inflammation from yeast, tampons, and other causes, and the hypoestrogenized state.⁵ Ostör, however, in a review of the natural history of CIN I, found that although 57% of 4504 patients with this level of dysplasia completely regressed, 11% progressed to CIN III (HSIL), and 1% progressed to invasive carcinoma.¹⁷ Additional studies have examined the clinical significance of ASC-US cytology in conventional Pap smears and have found an incidence of HSIL in these patients of 5.3% to 16.8%.^{18–24} Thus, although ASC-US and LSIL are widely considered to be of minimal risk, many physicians are not willing to refer patients back to the community to be followed by cytology only for fear of missing hidden lesions such as HSIL or invasive carcinoma. A recent study of the management of women with ASC-US, based on a survey sent to 491 obstetrician–gynaecologists, reported that for women with first-time ASC-US, 23% of respondents would perform colposcopy and 24.4% would repeat the Pap test in less than three months, indicating that almost half of the respondents would offer aggressive management.²⁵ This may stem from the fact that loss to follow-up after abnormal cytology and after colposcopy remains a major issue, with some clinics reporting loss to follow-up rates as high as 42%.^{26–29}

There are limitations to our survey that warrant discussion. First, as with all surveys, responses to written questions about management may reflect the respondents' intentions rather than their actual practice. The major disadvantage of mail surveys such as this is a typically low response rate, which potentially impairs study validity and introduces non-responder bias.^{30,31} This study had a response rate of

48%, which could have been improved using incentive or follow-up telephone calls to non-responders. Although bias may have affected our results, the wide variation in management practices reported makes it unclear how the results might have been skewed. There were several respondents who chose more than one management option when presented with a particular colposcopy scenario. As described in Methods, these responses were excluded from the data set, and therefore the percentages do not add up to 100%. The exclusions were commonest in the high-grade referral/confirmed low-grade group, in which 13% of respondents chose more than one management option. Interestingly, many of these respondents chose both repeat colposcopy and treatment, further highlighting the confusion that many have when faced with managing these lesions.

CONCLUSION

Our study confirms wide variation in management of ASC-US and LSIL among Canadian colposcopists. On the basis of these results, future randomized studies will be undertaken with the goal of establishing evidence-based management protocols.

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