Family Physicians' Colposcopy Practices

Paul R. Gordon, M.D., and Barry D. Weiss, M.D.

Abstract: ***Background:*** **The objectives of this study were to determine (1) the extent to which family physicians are performing colposcopy, (2) which colposcopic procedures are performed by these family physicians, (3) demographic characteristics of physicians who perform colposcopy, and (4) whether physicians who do not perform colposcopy plan to do so in the future.**

Methods: **A questionnaire was mailed to all 757 self-identified family practice physicians in Arizona.**

Results: **The return rate was 72 percent, and the response rate was 55.5 percent. Results indicated that 19.3 percent of respondents were trained to perform colposcopy, and 9.5 percent actually have performed it. For those performing colposcopy, the mean number of procedures performed during the previous 6 months was 25 (range 2–100).**

Conclusions: **Certain barriers to performing colposcopy were identified: (1) lack of available training, (2) interspecialty "turf battles," (3) quality assurance, and (4) the cost of malpractice liability insurance. Nevertheless, there were no insurmountable reasons why family physicians could not perform colposcopy.**

(J Am Board Fam Pract 1992; 5:27-30.)

The Papanicolaou smear has become a well-accepted screening tool for cervical cancer. For specific diagnostic abnormalities found on a Papanicolaou smear (i.e., cervical dysplasia or atypia), colposcopy is the recommended diagnostic procedure. Despite prior dominance by gynecologists in performing this procedure, family physicians have shown an increasing interest in developing the skills of colposcopy. Several recent articles have reviewed the role of family physicians in performing colposcopy, but all were from England.[1-4]

A recent national survey of family practice residency directors in the United States examined colposcopy training in their programs.[5] No research, however, has determined the frequency with which practicing family physicians perform colposcopy.

The objectives of this study, which was a statewide survey of family physicians in Arizona, were to determine (1) the extent to which family physicians are performing colposcopy, (2) which colposcopic procedures are performed by these family physicians, (3) characteristics of family physicians who are performing colposcopy, and (4) physicians' future plans related to colposcopy.

Methods

Using the *Board of Medical Examiners Directory* of physicians in Arizona, we found 757 physicians who identified themselves as specializing in family practice. These physicians were then cross-matched with those listed in the *Directory of Diplomates* of the American Board of Family Practice to find out who were board certified in family practice.

A questionnaire was mailed to each physician. The following questions were included: (1) Do you perform Papanicolaou smears? (2) Do you perform colposcopy? (3) Where did you obtain training in colposcopy? (4) What colposcopic procedures do you perform? (5) How many colposcopies did you perform during the last 6-month period? (6) If you do not perform colposcopy, what are your future plans related to colposcopy? An open-ended question also asked physicians to express their thoughts about colposcopy and family practice. In addition, basic demographic information was collected.

The chi-square statistic was used to determine which physician characteristics were associated on univariate analysis with an increased likelihood of performing colposcopy. Statistical significance was defined as a P value of less than 0.05.

Submitted, revised, 17 July 1991.

From the Section of Family Medicine, Department of Family and Community Medicine, University of Arizona, College of Medicine, Tucson. Address reprint requests to Paul Gordon, M.D., 1450 N. Cherry, Tucson, AZ 85719.

Results

Of the 757 questionnaires mailed to Arizona family physicians, 545 questionnaires were returned, for a return rate of 72.0 percent. The responses on 125 questionnaires indicated that the physician had moved, retired, died, or was no longer in clinical practice, leaving 420 returned questionnaires for analysis and a response rate of 55.5 percent.

The remaining 420 respondents formed the population for this study. There were 348 (83 percent) men and 72 (17 percent) women. Of the total group of 757 self-identified family physicians, 480 (63.4 percent) were board certified. Of the respondents, 282 (67.1 percent) were board certified.

Practice characteristics of responding physicians are shown in Table 1. Respondents did not differ signficantly from nonrespondents based on practice location ($P = 0.09$) and board certification ($P = 0.20$).

Four hundred nine (97.3 percent) respondents reported performing Papanicolaou smears, 81 (19.3 percent) were trained to perform colposcopy, and 40 (9.5 percent) were actually performing colposcopy. Of the 81 physicians trained in colposcopy, 46 percent gained their training through continuing medical education courses, 37 percent did so during residency training, and 30 percent learned through one-on-one instruction with another physician. Responses exceeded 100 percent because some respondents received training at more than one site.

Of those performing colposcopy, nearly all performed biopsy, cryosurgery, and endocervical curettage (100, 92, and 90 percent, respectively), whereas very few performed cone biopsy (10.5 percent) or laser vaporization (7.9 percent). The mean number of colposcopies performed during the previous 6 months was 24 (range 2 to 100).

Of those physicians not performing colposcopy, 16 (4.5 percent) referred their patients who needed colposcopy to another family physician, 22 (6.1 percent) referred to a gynecologic oncologist, and 344 (96 percent) referred to an obstetrician-gynecologist. Responses exceeded 100 percent because some respondents referred patients to more than one physician.

Of the 339 physicians who had not been trained in colposcopy, 55 percent had no plans to seek training, and 9 percent had active plans to do so. The remaining 36 percent were considering training, but training was not a high priority for them.

Seventy-two (17.1 percent) physicians answered an open-ended question regarding their opinions about family physicians performing colposcopy. Of these, 74 percent were in favor of family physicians performing the procedure, while 26 percent were opposed. Those opposed cited reasons that included malpractice liability premiums (4 respondents), not enough volume (6 respondents), leave it to the specialists (2 respondents), and turf problems (6 respondents). Those in favor believed it to be the natural extension of the primary care provided by family physicians (36 respondents), and a great idea if adequately trained (15 respondents).

Of the group of 81 physicians trained in colposcopy, the 40 who were performing colposcopy were more likely to practice in a group private practice ($P = 0.007$) and more likely to be board certified ($P < 0.02$). The following variables were associated with an increased likelihood of performing or seeking training to perform colposcopy: fewer than 5 years in practice ($P = 0.009$), university-based physician ($P = 0.006$), group practice ($P = 0.006$), and female sex ($P = 0.04$).

Table 1. Practice Characteristics of Responding Physicians.

Characteristics	Number	Percent
Practice setting		
Urban	269	64
Medium sized	59	14
Rural	92	22
Type of practice		
Solo practice	147	35
Group practice	148	35
Health maintenance organization	42	10
University based	12	3
Other	71	17

Discussion

This survey included only physicians from Arizona, and the result cannot be automatically generalized to physicians throughout the United States. Because the practice activities of Arizona family physicians[6] are similar in many ways to practice activities of physicians in other Mountain States, and Mountain States physicians (including Arizonans) could have a higher level of activity in

procedural clinical skills than family physicians in some other parts of the country,[7-9] the results of this survey probably indicate a "best case" or maximum rate of colposcopy activity by family physicians in the United States.

In our survey, 19.3 percent of family physicians reported being trained to perform colposcopy, but only 9.5 percent reported that they actually performed colposcopy. The relatively low rate of colposcopy activity probably can be explained by several factors.

First, the procedure is relatively new to family physicians. Even those family physicians who have taken the time to learn the procedure could only have done so in the past few years.

Second, colposcopes are expensive (approximately $5,000 to $10,000). Many family physicians who are interested in performing colposcopy (or who have been trained) may be reluctant to purchase a colposcope for their office until they detect a sufficient number of abnormal Papanicolaou smears to make purchasing a colposcope worthwhile. Assuming that a colposcope costs $7,500 and that the professional fee for colposcopy is $150, the physician must perform 50 procedures to cover the cost of the equipment. To pay off a colposcope in 2 years, for example, the practice must identify at least 25 abnormal Papanicolaou smears each year. Based on a 5 percent incidence of dysplasia,[10] the physician would have to do approximately 500 Papanicolaou smears each year to find 50 abnormal results per year.

Third, several other issues relating to colposcopy pertain to all procedural skills performed by family physicians: (1) availability of training, (2) turf battles, (3) quality assurance, and (4) the cost of malpractice liability insurance.

Training will become increasingly available as more residency programs provide colposcopy training. In fact, a recent survey of family practice residency directors found that nearly 60 percent of programs are currently offering colposcopy training, and an additional 15 percent are actively working on integrating colposcopy training into their curriculum.[5] For some physicians, the colposcopy training during residency will be sufficient to permit them to perform the procedure in practice. For others, additional experience will be needed. Neither the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, the American Board of Family Practice, nor the American Board of Obstetrics and Gynecology has published guidelines related to colposcopy training. Family physicians might consider establishing guidelines for implementation of colposcopy training for both residents and practicing family physicians.

Turf battles with gynecologists are an important factor. As most family physicians will not be performing laser vaporization or conizations, they will need to maintain a satisfactory working relationship with a gynecologist to whom they will refer patients who require such treatment. Using data-recording forms that are the same as those of the referral gynecologist can facilitate the patient's treatment on arrival to the gynecologist. A more collegial relationship can also result by having the family physician and gynecologist "speak the same language" by using similar notations in the medical record.

Quality assurance issues are of particular relevance to colposcopy, a specialized examination that requires recognizing microscopic patterns on the cervix. Improperly interpreted colposcopic findings can result in the physician's failure to diagnose cancer. As an office-based procedure, colposcopy is not regulated by federal, state, or local agencies, and there are currently no guidelines for demonstrating or maintaining proficiency at colposcopy. Family physicians (and gynecologists) need to develop a way to define and measure competence for colposcopists.

Finally, the cost of liability insurance is of concern to many physicians. It is important to note, however, that malpractice insurance companies generally do not increase family physicians' premiums when they add colposcopy (or cryosurgery) to their practice (personal communication, St. Paul Insurance Company, St. Paul, MN; and Mutual Insurance Company of Arizona, Phoenix, AZ).

Conclusions

Nearly 100 percent of family physicians perform Papanicolaou smears, and these physicians are ideally positioned to identify those women needing diagnostic colposcopy. This examination is a natural extension of the preventive services provided by family physicians to their female patients. The ability of family physicians to offer

colposcopy without having to refer to other facilities or physicians should increase patient follow-through with evaluation and treatment and lessen the frequency of untreated or inadequately treated cervical dysplasia and cancer.

Before deciding to add colposcopy as an office procedure, physicans must be sure that they have an adequate patient volume to justify purchasing the equipment. They must also acquire appropriate training to prevent diagnostic errors and have an adequate quality control program to ensure ongoing competence. After addressing these factors, and establishing a working relationship with a referral gynecologist, there are no insurmountable reasons why family physicians cannot or should not perform colposcopy in their offices.

References

1. Hiscock E, Reece G. Cytological screening for cervical cancer and human papillomavirus in general practice. BMJ 1988; 297:724-6.
2. Chomet J. Screening for cervical cancer: a new scope for general practitioners? Results of the first year of colposcopy in general practice. Br Med J [Clin Res] 1987; 294:1326-8.
3. Johnson DB, Rowlands CJ. Diagnosis and treatment of cervical intraepithelial neoplasia in general practice. BMJ 1989; 299:1083-6.
4. Walker P, Singer A. Colposcopy: who, when, where and by whom? Br J Obstet Gynecol 1987; 94:1011-3.
5. Gordon P. Colposcopy training in family practice residency programs. Fam Med 1991; 23:310-2.
6. Weiss BD. Family physicians' hospital privileges in Arizona. J Fam Pract 1986; 22:281-2.
7. Clinton C, Schmittling G, Stern TL, Black RR. Hospital privileges for family physicians; a national study of office based members of the American Academy of Family Physicians. J Fam Pract 1981; 13:361-71.
8. Weiss BD. Hospital privileges for family physicians at university hospitals. J Fam Pract 1984; 18:747-53.
9. Schmittling G, Tsou C. Obstetric privileges for family physicians: a national study. J Fam Pract 1989; 29:179-84.
10. Reiter RC. Management of initial atypical cervical cytology: a randomized, prospective study. Obstet Gynecol 1986; 68:237-40.