

When to Worry Cervical Abnormalities



By Dianne Miller, MD, FRCSC

What's the situation?

Over 600,000 Papanicolaou's (Pap) smears were performed in British Columbia in 2000. Approximately 13,400 colposcopic assessments were done in the same year, of which almost one tenth were referred on the basis of an abnormal appearance to the cervix. As only 146 women were then referred for cervical cancer in the same time period, the majority of "clinical abnormalities" referred for colposcopy did not represent cancer.¹ This article deals with some common variants and abnormalities on the cervix which may lead to concern.

In this article:

1. What does a normal cervix look like?
2. What are the abnormalities?
3. What are the trends in screening?

What are the trends?

Cervical cancer is a common lethal cancer in women worldwide. Screening programs for the detection of premalignant and malignant lesions of the cervix have been effective in decreasing the incidence and mortality from this disease in the developed world. The performance of Pap smears and pelvic examina-

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tion should be considered routine health care for women from the time they are sexually active. Unfortunately, for a number of reasons, trends in medical education have led to physician trainees having less exposure to the examination of the cervix and the lower genital tract. This trend leads to graduating physicians being unfamiliar with many of the normal variants and common non-malignant abnormalities seen on the cervix (Table 1).

Of the approximate 13,400 colposcopic assessments performed in 2000, one tenth were referred on the basis of an abnormal appearance to the cervix.

The Normal Cervix

The normal cervix undergoes changes throughout a woman's lifetime. In adolescence and the early reproductive years, glandular epithelium is generally visible on the ectocervix. This glandular epithelium is generally friable and can lead to easy bleeding at the time of the Pap smear. In some cases, often associated with the use of oral contraceptives, the glandular epithelium or ectropion may extend far on the ectocervix and appear alarming. This is one of the common findings in colposcopy patients referred for a clinical abnormality. It is important for the physician to ensure when taking Pap smears on women with very large ectropions that the sampling is from the area of the squamocolumnar junction, which in this case may be well out on the cervix.

As the woman ages the cervix undergoes a process of metaplasia, whereby the glandular epithelium is converted to squamous epithelium and the squamocolumnar junction migrates towards the cervical os, and eventually may be located inside the cervix and not visible to the naked eye. In this case, it is important that the practitioner sample the endocervical canal, as the majority of cancers develop in the transformation zone, located in the upper border of the squamocolumnar junction. Following conservative treatment for cervical dysplasia with Laser Leep or cryo, the cervix may demonstrate pale epithelium with very fine radial scarring towards the os.

Estrogen has important visible effects on the lower genital tract. In the premenopausal state or during hormone replacement treatment, the epithelium of the cervix is well estrogenised, moist, and pink in colour. In the postmenopausal state, the epithelium is pale, thin, and, even with mild trauma, may develop flame hemorrhages and telangiectasias.

Common Variants

Nabothian Cysts (mucous inclusion cysts)

The normal process of metaplasia may result in the development of mucous inclusion cysts. These are very common and have a bluish appearance, often with small blood vessels visible on their surface. In the presence of chronic cervicitis, they can be very numerous, cause a concerning appearance, and make the evaluation of the cervix more difficult. In general, they do not require treatment and are self-limiting.²



Leukoplakia

The presence of white patches on the cervix is fairly common. They are associated with the cytologic finding of a-nucleate squamous cells. Leukoplakia can be associated with chronic cervicitis and more importantly, with dysplasia of the cervix. Colposcopic assessment and biopsy may be required to evaluate these lesions and rule out the presence of dysplasia.³

Polyps

Polyps can originate from either the endocervix or the endometrium. They are usually small and can be easily twisted

Table 1

Abnormalities of the Cervix

Nabothian cysts
Leukoplakia
Polyps
Endometriosis
Obstetrical/surgical trauma of scarring
Mullerian anomalies
DES (diethylstilbestrol) exposed cervix
HPV (human papillomavirus) infection
Premalignant lesions of the cervix
Invasive cancer

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off. Though the majority of polyps are benign, they should be submitted for pathologic evaluation once removed. Occasionally they are larger, and in this case, one must consider the possibility of a prolapsed fibroid or a malignant mixed mullerian sarcoma (MMMT), both rare findings.

Endometriosis

Endometriosis on the cervix is relatively common. Endometriosis presents as a grey-blue nodule more prominent around the time of menses. The cervical lesions are generally asymptomatic.

Obstetric/surgical trauma or scarring

The cervix can become very distorted following obstetric lacerations and occasionally, following a cold knife cone biopsy with the utilisation of suture techniques. These abnormalities may make the cervix difficult to assess.

Clear cell cancers, which rarely develop, tend to occur in the late teens and twenties in DES-exposed women.

Mullerian anomalies

Abnormalities in the development of the female internal genitalia are uncommon, but the presence of vaginal septae and double cervixes may occasionally be seen. In this situation, it is important to ensure cytology sampling from both cervixes.

DES exposed cervix

Exposure in utero to DES (diethylstilbestrol) can cause a number of well-described abnormalities of development of the cervix, including adenosis (the presence of cervical glands well out on the ectocervix and upper vagina) and the presence of structural abnormalities, such as the “cockscomb cervix.” Fortunately, DES has not been used commonly for over 40 years. Clear cell cancers, which rarely developed in these women, tended to occur in their late teens and twenties. There may be a slightly increased risk for the development of squamous dysplasia.⁴

HPV infection

A complete discussion of HPV (human papillomavirus) and the cervix is beyond the scope of this article. Typical condyloma can occur on the cervix and are often associated with low-grade cervical dysplasia. Flat condyloma also occur and can be associated with the high-risk HPV sub-

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types. Generally, with typical condyloma other areas of the lower genital tract will also be involved. Cervical cytology is important in the evaluation of these patients.

Premalignant lesions of the cervix (high-grade dysplasia)


Visual inspection of the cervix has both a low sensitivity and specificity for the diagnosis of high-grade dysplasia or occult invasive cancer. In most cases, the cervix will appear normal.⁵

Invasive Cancer

Cervices with contact bleeding, the presence of a growth or an ulcer, or which are irregular and edematous, are suspicious for invasive cancer. In these cases, it is important to arrange a timely biopsy either immediately or by making a referral to an appropriate specialist. Cytology is often not useful in the presence of invasive cancer, as the smears will be obscured by inflammation and/or blood. Screening cytology generally has a longer turn around time to reporting than do biopsy and histology. [CME](#)


References

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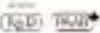


Can the
ratio
change the future?

The TC/HDL-C ratio is a **comprehensive lipid assessment** that encompasses the risk associated with both elevated LDL-C and reduced HDL-C.¹ It is a key treatment goal in current Canadian Cholesterol Treatment Guidelines.²

Are you treating to ratio? 

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Frequently Asked Questions

Our surveys show you want more questions and answers, so we have introduced a new department called “**Frequently Asked Questions**” or “**FAQs**.” We welcome your feedback at cme@sta.ca.

When to Worry: The Cervix

1. If you suspect cervical cancer you should submit an urgent Pap smear for evaluation.

False: The Pap smear is often unsatisfactory in the setting of cervical cancer due to the presence of discharge and bleeding. The appropriate next step is to arrange a timely biopsy of the abnormality.

2. Most colposcopic assessments are performed for abnormal appearing cervixes.

False: Only about one tenth of the referrals to the colposcopy clinic are for the presence of a visible abnormality on the cervix.

5. Leukoplakia on the cervix may be associated with cervical dysplasia and cancer.

True: In the presence of persistent leukoplakia, it is important to rule out the presence of significant dysplasia or cancer.

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3. Cervical polyps have a low incidence of malignancy.

True: The majority of polyps are benign.

4. Nabothian cysts are usually associated with cervical infection.

False: Though you can see multiple nabothian cysts in the setting of chronic cervicitis, they are also a common incidental finding on the cervix.

For an in-depth article on the cervix, please go to page 49.