

Cervical Dysplasia

Winter 2000

Summary:

Cervical dysplasia is an abnormal change in the cells of the cervix. It is a pre-cancerous condition, but it is not cancer itself. Cervical dysplasia can be diagnosed with regular Pap smears, and several effective treatments are available.

What is cervical dysplasia?

The cervix is the opening of the uterus (womb) that leads into the vagina. The cervix can be felt with a finger inside the vagina. Cervical dysplasia is an abnormal growth or change in the cells that make up the surface of the cervix.

A group of abnormal cells is called a lesion. Cervical dysplasia lesions can **regress** (which means they shrink and may even disappear), **persist** (the lesion remains present but doesn't change), or **progress** to become cervical cancer.

What causes cervical dysplasia?

Cervical dysplasia has been linked to a very common virus called human papilloma virus (HPV). There are over 70 strains of HPV and more than one third of them can be sexually transmitted. Some strains cause warts, including genital warts, while others may lead to cancer.

The body's own immune system may also play a role in the development of cervical dysplasia. Women whose immune systems are suppressed by drugs (to prevent organ transplant rejection, for example) or by HIV are at greater risk for cervical dysplasia. The risk seems to increase as CD4 counts drop below 500.

Other factors can also affect the development of cervical dysplasia. Cigarette smoking has been linked to this condition. Because HPV can be sexually transmitted, having multiple sexual partners can increase a woman's risk of being

exposed to this virus.

Prevention

Practising safer sex by using condoms or having non-penetrative sex can help reduce the risk of becoming infected with HPV. Stopping cigarette smoking can help reduce the risk of cervical dysplasia.

Regular medical check ups with pelvic examinations and Pap smears can help positive women and their doctors respond to signs of cervical dysplasia as soon as possible.

Symptoms

Usually, there are no physical symptoms of cervical dysplasia. Genital warts are a sign that someone has been exposed to HPV. The warts should be treated as soon as possible and the cervix should be checked for signs of cervical dysplasia.

Diagnosis

Regular pelvic examinations with Pap smears can help diagnose or monitor cervical dysplasia. To do a Pap smear, the doctor inserts a tiny brush and a small wooden spatula into the vagina and rubs them over the cervix, to loosen and collect cells. The cells are smeared on a glass slide that is sent to the lab for study. The Pap smear can help identify abnormal cells. Usually Pap smears are done once a year, but many physicians with HIV-positive women in their care recommend doing a Pap smear every six months.

Although Pap smears are useful, they can produce “false negative” results. In other words, the lab may report a test result as “normal” when there really is cervical dysplasia. For this reason, doctors often do another Pap smear three months after the first one, especially for women who are new patients. Many doctors recommend that newly-diagnosed HIV-positive women have a colposcopy.

The colposcope is a thin, flexible tube with a magnifying device that is inserted into the vagina. The colposcope allows the doctor to visually examine the cervix. The cervix is lightly washed with a vinegar solution before the colposcope is

put in place. The vinegar solution makes abnormal cells stand out more clearly against the surrounding tissue. When a colposcopy is performed, a biopsy (the removal of a tiny piece of tissue from the cervix) is often done at the same time. The biopsy sample allows lab technicians to study the entire tissue and make a more accurate diagnosis.

Usually, primary care physicians will do Pap smears as part of regular medical care. However, colposcopies and biopsies are done by gynecologists – doctors who specialize in women’s reproductive health.

Test results

The results of tests for cervical dysplasia can be described by a variety of medical terms.

Pap Smear Results

Normal	This means there is no evidence of change in the cells from the sample. Doctors often repeat the Pap smear in six months.
ASCUS or atypical	ASCUS stands for atypical squamous cells of unknown significance. This result means the cells in the sample don’t look like typical cervical cells, but they aren’t clearly abnormal. An atypical test result can be caused by a yeast infection, using oral contraceptives, or problems with taking the sample. Usually doctors repeat the Pap smear in a few weeks.
SIL	SIL stands for squamous intraepithelial lesion, another way of saying cervical dysplasia. This result means that some of the cells in the sample are abnormal. SIL or cervical dysplasia is pre-cancerous and must be treated to prevent cancer from developing. A colposcopy with a biopsy can show the extent of the dysplasia.

Biopsy Results

LSIL or CIN grade 1	LSIL stands for low-grade squamous intraepithelial lesion. CIN – or cervical intraepithelial neoplasia – is another way of saying cervical dysplasia. This result means very mild to mild dysplasia. Only about one third of the cells in the sample are pre-cancerous.
HSIL or CIN grade 2	HSIL stands for high-grade squamous intraepithelial lesion. This result means moderate dysplasia – about two-thirds of the cells in the sample are pre-cancerous.
HSIL or CIN grade 3	This result means severe dysplasia – almost all the cells in the sample are pre-cancerous.

Treatment

Treatment for cervical dysplasia varies from one woman to another, depending on the location and size of the lesion, and whether it's low grade or high grade.

Cryotherapy destroys the lesion by freezing. This procedure can be done in the doctor's office. There can be some discomfort or pain. After the treatment, spotting and watery discharge are common.

Laser treatment destroys the lesion with an intense beam of light. This procedure is often done in a day-surgery clinic. It can be uncomfortable and can cause spotting and discharge afterward.

LEEP stands for loop electrosurgical excision procedure. The lesion is surgically removed by an electrical current that passes through a very fine wire loop.

Cone biopsy removes a cone-shaped piece of tissue from the opening of the cervix. It can be done with a laser or with a scalpel, usually in a hospital or a day-surgery clinic, and patients are given an anesthetic. Some bleeding and pain or discomfort are common after this treatment.

After treatment

Although cervical dysplasia can be treated successfully, HIV-positive women are at high risk of it coming back. It is important to follow up treatment with a Pap smear and a colposcopy every three to six months.

A study of the drug 5-fluorouracil (5-FU) found that it can help keep cervical dysplasia from coming back. One hundred and one women who had been treated for moderate or severe cervical dysplasia took part in the study. Fifty of the women placed a 2-gram application of 5 per cent 5-FU cream into their vaginas at bedtime every two weeks. The other 51 women were followed up with Pap smears and colposcopies. After six months, only 28 per cent of the women who used the cream had their cervical dysplasia return, compared with 47 per cent of the women who did not.

Cervical dysplasia and HAART

Using an effective anti-HIV drug cocktail (also known as highly active antiretroviral therapy or HAART) can reduce viral load, improve CD4 counts, and greatly lower the risk of developing the infections that lead to AIDS. It may also improve cervical dysplasia.

Two studies have suggested that mild to moderate cervical dysplasia may improve in HIV-positive women using HAART. Researchers found women on an effective cocktail had a better chance of having cervical dysplasia lesions regress.

The bottom line

Cervical dysplasia is **not** cancer. Cervical dysplasia must be treated to prevent it from developing into cancer.

The risk of developing cervical dysplasia may be reduced by:

- practising safer sex to prevent the risk of HPV infection;
- quitting cigarette smoking;
- getting regular Pap smears or colposcopies; and
- taking an effective HAART cocktail.

References

Heard I, Schmitz V, Costagliola D, et al. Early regression of cervical lesions in HIV-seropositive women receiving highly active antiretroviral therapy. *AIDS* 1998, 12:1459-64.

Maiman M, Watts DH, Andersen JL, et al. Vaginal 5-fluorouracil for high-grade cervical dysplasia in human immunodeficiency virus infection: a randomized trial. *Obstetrics and Gynecology* 1999;94:954-61.

Minkoff H, Ahdieh L, Massad S, et al. Effect of highly active antiretroviral therapy (HAART) on cervical cytologic changes associated with oncogenic HPV among HIV-positive women. [Abstract 674] *7th Conference on Retroviruses and Opportunistic Infections*, San Francisco, CA, January 30 - February 2, 2000.

Olaitan A, Johnson M. Cervical intraepithelial neoplasia in women with HIV. *Journal of the International Association of Physicians in AIDS Care*. 1997 May. Available online at www.iapac.org/clinmgt/women/cervical.html

Rosenthal MS. *The Gynecological Sourcebook*. Update edition. Lowell House, Los Angeles. 1997.

Six C, Heard H, Bergeron C, et al. Comparative prevalence, incidence, and short-term prognosis of cervical squamous intraepithelial lesions amongst HIV-positive and HIV-negative women. *AIDS* 12:1047-56, 1998.

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Printed March 31, 2000

Funding has been provided by the HIV/AIDS Care, Treatment and Support Program, Health Canada, under the Canadian Strategy on HIV/AIDS.



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