



ANAL DYSPLASIA

Summary

Anal dysplasia is a pre-cancerous condition, but it is not cancer itself. People with HIV, including women, are at increased risk for anal dysplasia. You can reduce the risk by practising safer sex—especially by avoiding unprotected receptive anal intercourse (bottoming). However, condoms are not completely effective in blocking the transmission of HPV (human papillomavirus)—a virus that can cause anal dysplasia. Screening tests can detect dysplasia or pre-cancerous changes. If these pre-cancers are treated, anal cancer may be prevented.

What is anal dysplasia?

Anal dysplasia is a pre-cancerous condition. It refers to abnormal changes in the cells that make up the lining (mucosa) of the anal canal. Abnormal cells clustered together form a visible pattern called a lesion. Low-grade lesions may progress to high-grade lesions, which are more serious as they can progress sooner to cancer. But not all lesions progress. Some may regress, meaning they shrink or even disappear. Some may persist, meaning they remain present without changing.

The anus extends from the anal opening to about 4 cm inside the body to join the rectum. The portion inside the body is called the anal canal. Anal dysplasia occurs mainly in two places: in the “junction,” where the anal canal meets the rectum; and in the peri-anal skin, just outside of the anal opening. Severe peri-anal dysplasia is also called Bowen’s disease.

What causes anal dysplasia?

Anal dysplasia is linked to a common virus called the human papillomavirus (HPV). HPV

is a common virus with at least 70 strains, many of which can be transmitted sexually. HPV causes very similar problems in men and women. Some strains cause warts, including genital warts. These strains do not cause severe dysplasia or cancer. Strains commonly linked with severe anal dysplasia and cancer are also linked to cancer of the cervix.

Our cells make certain proteins that help prevent dysplasia and cancer. HPV can shut off these proteins, allowing dysplasia to develop. HIV seems to interact with HPV to make these changes more likely. Anal dysplasia has been clearly associated with HIV and with a decrease in CD4+ cell counts.

Who gets anal dysplasia?

Since anal dysplasia can lead to anal cancer, the two conditions share many risk factors. Gay men who have had anal receptive intercourse (“bottoming”) are at highest risk for getting anal HPV infection and anal cancer. The risk increases with HIV infection. Other people at risk for HIV, such as injection drug users, have a higher risk of anal cancer but



not as high as that of gay men who bottom. Women who have anal intercourse and women who have had cervical cancer are also more likely to develop anal dysplasia.

Having multiple sex partners increases the likelihood of getting anal HPV. Cigarette smoking is another risk factor for anal dysplasia.

Prevention

Practising safer sex, including non-penetrative sex, helps reduce the risk of HPV transmission. Condoms do not completely block HPV infection because the virus may be present on skin not covered by the condom. Stopping cigarette smoking can help reduce the risk of anal dysplasia. Treating HIV with antiretroviral therapy has not been shown to prevent anal dysplasia.

Symptoms

Unfortunately, there are often no specific symptoms of anal dysplasia until it is quite advanced. Anal warts may be associated with lumps in and around the anus, but many warts inside the anal canal produce no symptoms. Anal warts are not dangerous by themselves but do warn of an HPV infection. In advanced anal cancer, there may be anal pain and bleeding. However these symptoms are not specific to anal cancer; they are also commonly associated with other conditions.

Diagnosis

Regular medical check-ups with anal examinations by your doctor will help detect early cancers. Anal Pap smears can help detect dysplasia. If you have ongoing problems with anal pain, bleeding or other discomfort, you should have an anal canal examination.

An anal canal examination can take several forms. A digital exam is when the doctor places a gloved finger in the anal canal to feel for lumps. Anoscopy is a visual examination of the anal canal mucosa using an anoscope with a bright light. Lastly, there is a special kind of anoscopy called high-resolution

anoscopy (HRA), which uses a magnifier to provide more detailed images of the mucosa. During the procedure, lesions are enhanced by first applying a thin layer of dilute vinegar to the mucosa. HRA is not widely available.

Dysplasia can be diagnosed in the anal canal with a Pap smear similar to that used to detect cervical cancer in women. Cells collected from a swab inserted in the anus are examined under a microscope for pre-cancerous changes. In people at high risk for anal cancer, the anal Pap smear and HRA should be done yearly where facilities exist.

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 dysplasia found in the anal canal by HRA. The Pap smear can also give a “false positive”—the lab reports dysplasia, but none is found on HRA.

A digital exam cannot detect dysplasia because these lesions cannot be felt, although some bigger warts can be found with the finger. As well, CT scans (computed tomography scan) or MRIs (magnetic resonance imaging) do not detect dysplasia. Other examinations such as sigmoidoscopy and colonoscopy do not adequately examine the anal canal. Do not assume you’ve been screened for anal cancer if you have had a colonoscopy.

If a lesion or other abnormality is seen in the anal canal, your doctor may refer you to an ano-rectal specialist. As part of the investigation, the specialist may cut out a piece of tissue from your anal canal (anal biopsy). Pathologists can look at this tissue under a microscope to confirm a diagnosis or rule out dysplasia.

Some dysplasia just outside of the anus can be seen by spreading the cheeks. Lesions often appear as darkly coloured areas of the skin or as moist itchy areas. A biopsy will provide the diagnosis.



Test results

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

Pap smear results

- **Normal:** There is no evidence of abnormal changes in the cells sampled.
- **ASCUS (Atypical Squamous Cells of Unknown Significance):** The cells are abnormal, but no definite diagnosis can be made.
- **LSIL (Low-grade Squamous Intraepithelial Lesion):** This result means mild dysplasia.
- **HSIL (High-grade Squamous Intraepithelial Lesion):** This result means moderate to severe dysplasia.

Biopsy results

- **Normal:** There is no evidence of abnormal changes in the sampled cells.
- **LSIL or AIN-1 (Anal Intraepithelial Neoplasia, grade 1):** This result means mild or low-grade dysplasia.
- **HSIL or AIN- 2,3:** This result means severe or high-grade dysplasia. All or almost all of the cells in the sample may be pre-cancerous.

Treatment

Treatment for anal dysplasia varies with the size of the lesion and whether it is low grade or high grade. Low-grade lesions are low risk and generally not treated, but they are watched for signs of progression. High-grade lesions should probably be treated, although the best therapy has not yet been established. Treatment options include:

- **Laser Treatment or Treatment by IRC (Infra-Red Coagulator):** This destroys the lesion with an intense beam of light and heat. It can be uncomfortable and can cause pain (so the area must be “frozen” with a local anesthetic) and there may be slight bleeding afterwards. However, it can be done in a day-surgery clinic and one treatment may be enough.

- **TCA (Trichloroacetic Acid):** The lesion is treated by being touched with acid-soaked cotton. This is simple and painless but four or more treatments may be needed over several weeks.
- **Surgery:** The lesion is cut out by a surgeon.
- **Watch and Wait:** Sometimes the dysplasia is too widespread to remove without causing damage to the anus. In this case, your doctor may just observe it for months or years. If cancer does develop, it can be treated very early and with good results.
- **Therapeutic Vaccine:** With this experimental approach, the patient is injected with an HPV vaccine, the theory being that the body will mount an immune response against the vaccine and also against the lesion, causing it to regress.

After treatment

Although anal dysplasia can be treated successfully, people with HIV are at high risk of it coming back. It is important to follow up treatment with regular monitoring.

Anal dysplasia and HAART

Using an effective anti-HIV drug regimen (also known as highly active antiretroviral therapy, or HAART) can lower the risk of developing some cancers and infections that lead to AIDS. However, HAART does not seem to prevent or improve anal dysplasia.



Credits

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Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV-related illness and the treatments in question.

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