Anal Cancer: Distribution in the Population and Causes

Anal Cancer is on the rise in the general population of the United States. The American Cancer Society estimates that in 2014 there were 7210 cases of anal cancer, 950 of which were fatal.

The incidence of anal cancer is highest in HIV positive people, men who have sex with men, and those who are immuno-suppressed for other reasons, such as organ transplants. Women have higher rates of anal cancer than men do. Women who have had precancerous conditions elsewhere in the anogenital track are also at higher risk for anal cancer.

The sharpest increases in anal cancer rates have been in HIV positive people. Between 1980-1984 the rate of anal cancer in HIV positive men was 1.1%. By 2000-2004 the rate had risen to 28.4%. It is hypothesized that the successful use of antiretroviral therapy which has increased the lifespan of those living with HIV has given cancers like this more time to develop. HIV positive people have much higher rates of cancer than the general population, and anal cancer is no exception. Even those on successful antiretroviral therapy with an undetectable viral load STILL have an increased risk of anal cancer.

What Causes Anal Cancer?

Over 90% of anal cancers are caused by human papillomavirus (HPV). HPV is extremely common in sexually active people. The Centers for Disease Control states that nearly every sexually active person in the United States will come into contact with HPV at some point in their lives. In HIV negative people the immune system clears the virus out 70% of the time. HIV positive people are more likely to continue to have HPV once they have acquired it, perhaps because their compromised immune systems have a harder time getting rid of the virus.

There are over 200 different kinds of HPV but only about 20 or so commonly infect the genital region. HPV types 6 and 11 cause genital warts. Since warts do not usually progress to cancer, HPV 6 and 11 are considered to be non-oncogenic HPV types, meaning that they do not cause cancer.

On the other hand, there are oncogenic (cancer-causing) HPV types that also infect the anal canal. Most anal (and cervical) cancers are caused by HPV 16 and HPV 18.

Can HPV be prevented?

HPV is extremely common. 90% of the population has been exposed to HPV at some point. Infection rates are upwards of 75% of sexually active adults.

HPV lives only in skin cells (epithelium) and no other type of cells, so it is transmitted through skin-to-skin contact. That usually means contact from genital skin to genital skin. HPV is
rather easily acquired, and while wearing condoms may help some, it is by no means completely effective at preventing HPV transmission. Many people get HPV within their first few sexual partners.

Vaccines are currently available for the HPV strains most likely to cause cancer. These vaccines are proving to be fairly effective, but they must be administered before boys and girls become sexually active. When use of these vaccines becomes widespread it will likely reduce the rates of cervical and anal cancer. However at this point in time a low percentage of girls are being vaccinated, and even fewer boys.

Anal HPV is more common in those with a history of receptive anal intercourse. However it is possible to develop anal HPV infection without having receptive anal intercourse, especially in women and HIV positive people. Women with a history of HPV infection of the cervix also have a high rate of anal HPV infection, regardless of whether they have had receptive anal intercourse. The reason for this is poorly understood, but it is thought that perhaps the virus either travels within the body from the cervix to the anus, it spreads from the vulva, or is somehow spread during vaginal intercourse.