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Can a man cause cervical cancer

Diagnosis & Treatment Prevention Treatment for cervical cancer can have an effect on your sex life. If you have not yet had your menopause you might find that your treatment brings on an early menopause. This will happen if you have: external radiotherapy your ovaries removed with surgery Your surgeon might suggest leaving your ovaries behind if you haven't had your menopause, but that is not always possible. Having your ovaries removed will cause an immediate menopause. Radiotherapy will cause an early menopause because it stops your ovaries from working. Ovaries produce sex hormones. They stop producing these hormones at the natural menopause. For some women it is possible to move the ovaries out of the area where you are having radiotherapy (the radiotherapy field). Your surgeon can do this with keyhole (laparoscopic) surgery. This might help to prevent you from going through an early menopause. Your doctor will discuss if this is an option for you. Symptoms The symptoms of a menopause due to cancer treatment are the same as those of a natural menopause, but they can be more intense if it comes on suddenly. You might have: hot flushes and sweating vaginal dryness low mood or depression loss of confidence and self esteem tiredness thinning bones loss of interest in sex Hormone replacement therapy (HRT) If your treatment causes an early menopause, speak with your doctor to see if you can have HRT. HRT or hormone replacement therapy means taking a tablet or wearing a skin patch. This gives you the female sex hormones that you are no longer producing naturally from your ovaries. HRT can usually help with all the symptoms of menopause. But if you have had radiotherapy, it is unlikely to help with vaginal dryness. Other effects of radiotherapy The radiotherapy that you have for cervical cancer is quite intensive. It can cause a number of side effects. These can include: shortening and narrowing of the vagina vaginal dryness pain when having sex sensitivity and fragility of the lining of the vagina Common fears about sex and cancer You might feel nervous about having sex after you have been diagnosed with cervical cancer or after treatment. If you want to, you can go back to a normal sex life within a few weeks of finishing radiotherapy or having surgery. It is a good idea to have those few weeks to help your body heal. But after that it is perfectly safe. Sex won't make your cancer worse or make it more likely to come back. Human Papilloma Virus (HPV) Cervical cancer is not infectious. Your partner can't catch it from you. This can be confusing because cervical cancer is linked to the human papilloma virus (HPV). This virus increases the risk of some cancers and can be passed between sexual partners. Speak to your doctor or nurse if you are worried. Chemotherapy If you are having chemotherapy, it is a good idea for your partner to use a condom if you have penetrative sex. This is just a precaution. Doctors don't know enough yet about whether any of the cancer treatment drugs come through in the cervical or vaginal mucus. There is no known harm so far but doctors are not sure whether the drugs could have an effect on your partner. Starting again You may feel nervous about starting your sex life again, but try not to worry. You probably just need time to come to terms with all that has happened to you. If you are worried, anxious or depressed, you are not likely to feel like having sex. Give yourself plenty of time. And it helps to talk things over with your partner. Together you can work out what is best for you both. There are sex therapists you can see, who can help you. Talk to your GP and they can put you in touch with someone. But for most people, it just takes a little time. 20 May 202020 May 2023 Cervical cancer: ESMO clinical practice guidelines for diagnosis, treatment and follow up C Marth and others Annals of Oncology, 2017. Volume 28, Supplement 4 What Causes Cervical Cancer?While there are many factors that put women at risk for cervical cancer, almost all cervical cancers are caused by the human papillomavirus (HPV), the same virus responsible for genital warts. There are over 100 different types of HPV. However, only certain types are associated with cervical cancer. These are called the high-risk types. High-risk types of HPV include:HPV 16HPV 18HPV 31HPV 33HPV 45According to the American Cancer Society (ACS), approximately two thirds of all cervical cancers are caused by HPV 16 and 18. However, both types are preventable by vaccination. Also, not all infections with these types of HPV cause cervical cancer. Most women clear HPV infections on their own within two years. Infections that last longer than a few years are called persistent infections. These are the infections most likely to become cancerous. It is not well understood why some women clear their HPV infections while others do not.HPV is extremely common. According to the Centers for Disease Control and Prevention (CDC), six million people in the United States acquire HPV each year. At least 20 million already have it, and more than half of all sexually-active adults will be infected during their lifetime. Fortunately, the two types of HPV responsible for most cases of cervical cancer can be prevented by vaccination. The two types responsible for most cases of genital warts are also preventable by vaccination. However, vaccination is most effective when it is done before sexual activity begins. The risk of HPV infection can also be reduced by practicing safe sex. HPV is transmitted during sex. It can be spread through:vaginal sexoral sexanal sexSafe sexual practices can reduce the risk of transmission. Condoms should be used for vaginal and anal sex. Condoms or dental dams can also reduce the risk of virus transmission during oral sex. However, condoms cannot prevent HPV entirely. The virus spreads by skin-to-skin contact.Sexually transmitted HPV has been linked to:cervical canceranal cancervulvar cancerthroat cancerConsistently practicing safe sex lowers your risk of developing an HPV-related cancer.Certain genetic and lifestyle factors may increase a woman’s risk for contracting HPV, which can lead to cervical cancer. They include:first intercourse at a young agehigh number of sex partnersa history of other sexually transmitted infections, such as chlamydia or gonorrheasex with a man whose partner had cervical cancerIt is important to note that other biological factors also affect HPV infection. In young women, the cervix is more susceptible to infection. Smoking makes HPV infection more likely to turn into cancer. Immunodeficiency (weakened immune system) also makes it harder for the body to eliminate an HPV infection.However, not all HPV infections lead to cervical cancer. While the exact cause is unknown, factors that may increase your risk for cervical cancer include:more than three full-term pregnancies, or a full-term pregnancy before the age of 17a family history of cervical cancerlong-term use (more than 5 years) of oral contraceptiveschlamydia infectionHaving a mother who used a hormonal drug called diethylstilbestrol (DES) during pregnancy also increases cervical cancer risk. However, DES daughters are a special case. Their cancers are not necessarily caused by HPV. They start in a different type of cells than most cervical cancers.Vaginal cancers are more common than cervical cancers in DES daughters. Women with early cervical cancers and pre-cancers usually have no symptoms. Symptoms often do not begin until the cancer becomes larger and grows into nearby tissue. When this happens, the most common symptoms are: Abnormal vaginal bleeding, such as bleeding after vaginal sex, bleeding after menopause, bleeding and spotting between periods, or having (menstrual) periods that are longer or heavier than usual. Bleeding after douching may also occur. An unusual discharge from the vagina − the discharge may contain some blood and may occur between your periods or after menopause. Pain during sex Pain in the pelvic region Signs and symptoms seen with more advanced disease can include: Swelling of the legs Problems urinating or having a bowel movement Blood in the urine These signs and symptoms can also be caused by conditions other than cervical cancer. Still, if you have any of these symptoms, see a health care professional right away. Ignoring symptoms may allow the cancer to grow to a more advanced stage and lower your chance for successful treatment. For the best chances for treatment to be successful, don't wait for symptoms to appear. Have regular screening tests for cervical cancer. ARTICLE ARTÍCULOS The male role in cervical cancer El papel del varón en el cáncer cervical Xavier Castellsagué, MD, MPH, PhDI; F Xavier Bosch, MD, PhDI; Nubia Muñoz, MD, MPHII IInstitut Català d'Oncologia (ICO). Servei d'Epidemiologia i Registre del Càncer. L'Hospitalet de Llobregat (Barcelona), Spain IIInternational Agency for Research on Cancer (IARC). Unit of Field and Intervention Studies. Lyon, France ABSTRACT Experimental, clinical, and epidemiological evidence strongly suggests that genital Human Papillomaviruses (HPVs) are predominantly sexually transmitted. Epidemiological studies in virginal and HPV-negative women clearly indicate that sexual intercourse is virtually a necessary step for acquiring HPV. As with any other sexually transmitted disease (STD) men are implicated in the epidemiological chain of the infection. Penile HPVs are predominantly acquired through sexual contacts. Sexual contacts with women who are prostitutes play an important role in HPV transmission and in some populations sex workers may become an important reservoir of high-risk HPVs. Acting both as "carriers" and "vectors" of oncogenic HPVs male partners may markedly contribute to the risk of developing cervical cancer in their female partners. Thus, in the absence of screening programs, a woman's risk of cervical cancer may depend less on her own sexual behavior than on that of her husband or other male partners. Although more rarely than women, men may also become the "victims" of their own HPV infections as a fraction of infected men are at an increased risk of developing penile and anal cancers. Male circumcision status has been shown to reduce the risk not only of acquiring and transmitting genital HPVs but also of cervical cancer in their female partners. More research is needed to better understand the natural history and epidemiology of HPV infections in men. This paper is available too at: Key words: cervix neoplasms; human papillomavirus; sexually transmitted infections; male role RESUMEN Evidencia experimental, clínica y epidemiológica demuestra que los papilomavirus humanos (VPH) genitales son predominantemente de transmisión sexual. Estudios experimentales en mujeres vírgenes y en mujeres VPH-negativas indican de forma clara que el coito es virtualmente un paso necesario para adquirir el VPH. Como ocurre con cualquier otra infección de transmisión sexual (ITS) los varones están implicados en la cadena epidemiológica de la infección. Los VPH en el pene son predominantemente adquiridos a través de contactos sexuales. Los contactos sexuales con mujeres que ejercen el sexo comercial juegan un papel importante en la transmisión de los VPH y en algunas poblaciones estas mujeres pueden convertirse en un importante reservorio de VPH de alto riesgo. Actuando ambos como "portadores" y "vectores" de los VPH oncogénicos los hombres pueden aumentar de forma substancial el riesgo de propiciar cáncer de cérvix en sus parejas. En ausencia de programas de detección precoz, el riesgo de cáncer de cérvix en una mujer puede depender menos de su conducta sexual que de la de su marido u otras parejas sexuales. Aunque más raramente que en las mujeres, los hombres pueden también convertirse en "víctimas" de sus propias infecciones por el VPH, pues una fracción de hombres infectados tiene un riesgo aumentado de desarrollar cáncer de pene y de ano. Se ha mostrado que la circuncisión masculina puede reducir el riesgo no sólo de adquisición y transmisión del VPH genital, sino también de cáncer cervical en las parejas de hombres circuncisos. Se requieren más estudios científicos para entender mejor la historia natural y la epidemiología de las infecciones por el VPH en el hombre. Este artículo también está disponible en: Palabras clave: neoplasmas del cuello uterino; papillomavirus humano; infecciones sexualmente transmisibles; papel masculino Epidemiological studies in virginal and Human Papillomavirus (HPV)-negative women clearly indicate that sexual intercourse is virtually a necessary step for acquiring HPV as detected by HPV DNA and serum antibodies testing. Genital HPVs are predominantly sexually transmitted. As with any other sexually transmitted infection (STI) men are implicated in the epidemiological chain of the infection. Acting both as "carriers" and "vectors" of oncogenic HPVs, male partners may be important contributors to the risk of developing cervical cancer in their female partners. Although more rarely than women, men may also become the "victims" of their own sexual behavior and of their own HPV infections, and a fraction of infected men are at an increased risk of developing penile and anal cancers, two tumors that are strongly related to infection by the same HPV types that cause cervical cancer. This chapter reviews and summarizes the accumulated evidence showing the importance of the male role in cervical carcinogenesis. We first show ecological evidence correlating sexual behavior patterns with cervical cancer incidence rates in different populations. We also review the evidence for a role of men in HPV transmission and cervical cancer risk. Sexual behavior patterns and incidence of cervical cancer: An ecological approach The hypothesis The extent to which males contribute to the risk of HPV-related cancers in a particular population mainly depends on two factors: the overall pattern of sexual behavior in the population as a whole, and on its related background HPV prevalence. This concept is not new and it was first formally proposed by Skegg and colleagues back in 1982, well before HPV was identified as the causal agent of cervical cancer.1 These investigators hypothesized that, in some populations, "a woman's risk of cervical cancer will depend less on her own sexual behavior than on that of her husband or other male partners." Without data on HPV prevalence at hand, they put forward the idea that cervical cancer incidence rates in an unscreened population will vary according to three different sexual behavior patterns. "Pattern A", would be observed in non promiscuous communities in which both men and women are mainly lifetime monogamous. "Pattern B", would be the one observed in some Latin American societies in which while women are expected to be lifetime monogamous men have many sexual partners. And "Pattern C", would be observed in a more permissive society in which both men and women tend to have several partners. Skegg's model thus predicted that cervical cancer incidence rates would be lowest in "Pattern A" communities, in which men and women are mostly monogamous, and highest in "Pattern B" communities, in which many men have intercourse with a small number of highly promiscuous women, frequently sex workers who constitute a reservoir of HPV infection. The data: the IARC studies on the male role Between 1985 and 1993 the International Agency for Research on Cancer (IARC) conducted a series of case-control studies in countries with low, intermediate and high incidence rates of cervical cancer to assess the role of HPV and other STIs in the etiology of this cancer.2-15 Husbands or current stable sexual partners of the women recruited in these studies were also invited, interviewed, and their penile samples tested for HPV DNA detection by state-of-the-art Polymerase Chain Reaction (PCR) techniques. This was accomplished in 1 925 men enrolled in seven case-control studies carried out in Colombia, Brazil, Thailand, The Philippines, and Spain. This design allowed, almost 20 years later, the testing of Skegg's hypothesis by analyzing individually-collected data on HPV infection and sexual practices in adult men and women. The distribution of the lifetime number of sexual partners in men and women is plotted in Figure 1 for two selected countries that have a 5-fold ratio of cervical cancer incidence rates: Colombia, (age-adjusted incidence rate [AAIR] of 34.4 per 100 000 women), and Spain (AAIR of 7.1). The curve for Colombia, closely resembles that hypothesized in Skegg's "Pattern B" society, with women being mostly monogamous (around 70%), and men highly promiscuous (55% of men had 20 or more sexual partners). In contrast, the corresponding distribution in Spain, although not identical, is consistent with Skegg's "Pattern A" society, with the vast majority of women being monogamous (around 90%), and a small fraction of men highly promiscuous (15% of men had 20 or more sexual partners). Clearly, the male to female disparity in terms of number of sexual partners is more marked in high-risk Colombia than in low-risk Spain, confirming thus the contrasting cervical cancer incidence rates predicted by Skegg's model. In parallel with these findings the distribution of age at first sexual intercourse, a sexual behavior indicator consistently found to be associated with cervical cancer risk even after taking into account HPV, greatly differed between Colombia and Spain (Figure 2). It was remarkable that, for this variable, the between-country disparity was observed both in men (68% versus 24% men initiated sex at age 16 or younger in Colombia and Spain, respectively), and in women (26% versus 6% women, initiated sex at age 16 or younger in Colombia and Spain, respectively). These studies further found that the prevalence of reported ever contacts with prostitutes (79% in Colombia versus 52% in Spain) correlated also with cervical cancer, as it did the fraction of men's sexual partners than were prostitutes (28% versus 10% men had more than 50 partners that were prostitutes in Colombia and Spain, respectively). Concerning HPV infections in men and women the results from these studies show that penile HPV correlates better than cervical HPV with cervical cancer incidence rates. In Colombia, men had a higher HPV prevalence than women (19% versus 15%, respectively). In Spain, HPV prevalences for both men and women were 5 to 6-fold lower than those in Colombia, and men had a lower HPV prevalence than women (3% versus 5%, respectively). The role of men in cervical carcinogenesis Male sexual behavior and cervical neoplasia in sexual partners Although the implication of a sexually transmitted agent in the etiology of cervical cancer has been suggested since the 1940's,16 most early studies focused on the analysis of female's sexual behavior and on the testing of female's biological samples, paying little attention to the potential contribution of men. However, as with any other STD, studies in couples should provide consistent evidence of the venereal nature of HPVs and one would expect higher rates of HPV infection and HPV-related diseases in women who had sexual contacts with promiscuous men than in women who had contacts with non-promiscuous men. Indeed, this was already reported more than 30 years ago by Pridan and colleagues who showed for the first time an association between the number of sexual partners of the husband and the risk of cervical cancer among mostly monogamous Jewish women.17 Since the women themselves may also have had multiple sexual partners, the evidence for a role of men in HPV transmission is more clearly shown in studies of couples whose female consort claim to have had no sexual partners other than her husband or stable partner. This was shown for the first time by Buckley and colleagues who found that the risk of cervical cancer among monogamous women greatly increased with the number of sexual partners their husbands had had. Other male factors found to increase risk in this study were an early age at first intercourse, extramarital affairs, and history of STDs.18 The potential importance of the male role was also suggested in early studies of marital clusters. One study reported that subsequent wives of husbands whose previous wife developed cervical cancer had an increased risk of cervical neoplasia,19 and several studies have shown that wives of men with cancer of the penis have a higher incidence and mortality rates of cervical cancer.20-22 Studies showing geographic clustering of cervical and penile cancers,23-25 and studies showing strong correlation between incidence rates of male and female genital cancers,22,26 provided further ecological support on the importance of men in the natural history of cervical cancer. More recently, data from the Swedish Family Cancer Database showed that husbands of women with in situ or invasive cervical cancer had an excess risk of anal cancer, a recognized HPV-related cancer.27 Anal cancer was also increased as a second primary cancer in women with cervical neoplasia.28 Of special interest is also the excess risk found in husbands of cervical cancer patients of both tonsilar cancer and cancer of the tongue, supporting the currently emerging evidence that HPV may be etiologically involved in a fraction of these tumors.29 All together these studies provide thus indirect evidence that: a) cervical and penile cancers share a common infectious etiology, b) both men and women contribute to the transmission of an infectious agent, and c) both men and women may become cancer victims of this viral infection. Stronger evidence of the male role has been provided by formal case-control studies comparing either direct histories of sexual behavior or clinical evidence of HPV-related lesions in male partners of women with and without cervical cancer.2,13,30-32 Zunzunegui and colleagues showed, for instance, that as compared to unaffected women, women with cervical neoplasia were five times more likely to be married to a man who had had more than 20 sexual partners.30 In another study, women who were the sole sexual consorts of men with pre-existing penile condyloma showed an increased risk of cervical neoplasia.33 Barrasso and colleagues also reported a high prevalence of HPV-related penile neoplasia in the sex partners of women with cervical neoplasia.34 Penile HPV DNA and risk of cervical cancer After the identification of HPVs as the sexually transmitted agents etiologically linked to cervical cancer, firm evidence for a role of men as carriers and vectors of oncogenic HPVs stemmed from studies that introduced HPV DNA detection in penile samples. The largest study to date exploring the male role in cervical carcinogenesis is the multicentric case-control study coordinated by the IARC (Lyon, France). As explained in a previous section this large study involved over 1 900 couples that were enrolled in seven case-control studies of cervical cancer carried out in Spain, Colombia, Brazil, Thailand, and the Philippines and in whom exfoliated penile cells were collected in men for HPV DNA detection.2,3,5,6,8,9,11,13,15 Pooled data from these studies clearly indicate that the overall penile HPV prevalence clearly increases with increasing lifetime number of sexual partners of the men and with and early age at sexual debut (Figure 3). If we take also into account the sexual behavior of the female consort in the studies conducted in Spain2 and Colombia13 we can see that penile HPV prevalences were systematically higher in husbands of non-monogamous women than in husbands of monogamous women (Figure 4). Furthermore, the increasing trend between penile HPV and number of sexual partners of men was observed in the partners of both monogamous and non-monogamous women.7 Results for the IARC studies conducted in low- to intermediate-risk countries (i.e., Spain, Thailand and the Philippines), also indicate that the men's lifetime number of sexual partners, including female prostitutes as sexual partners, is one of the key determinants of cervical cancer risk in their wives. In Spain, the presence of HPV DNA in the husband's penis conveyed a 5-fold increased risk of cervical cancer to their wives. The odds of cervical cancer among monogamous women increased up to 9.5-fold in relation to the presence of high-risk HPV types in the penis of their husbands. The excess risk associated with HPV type 16 was 6- to 9-fold. Furthermore, the prevalence of penile HPV showed a positive trend with increasing number of sexual partners and with the number of sexual partners who were prostitutes.2 In contrast, in high-risk countries such as Colombia and Brazil, no associations with cervical cancer risk were found with penile HPV DNA or with other indicators of male sexual behavior.13 The lack of association between most male-related variables and cervical cancer risk found in high-risk countries could be explained by the fact that in these populations HPV is such a widespread infection that hampers case-control studies to discriminate subjects at a higher risk. In these populations, women's having sexual contacts with an even limited number of male partners place them at a high risk of acquiring cervical HPV infections and subsequent cervical cancer. HPV DNA detection in the penis of adult men, even if high, is still a poor reflection of lifetime exposure to HPV. Other biological markers of lifetime sexual promiscuity in men such as seropositivity to Chlamydia trachomatis have proved to better discriminate men's partners at a high risk of cervical cancer, not only in populations at low risk,2 but also in populations at high risk of cervical cancer.13 HPV concordance in couples Several studies have addressed concordance of genital HPVs in heterosexual couples. Most, but not all,35 of these studies found a relatively poor correlation of HPV-positivity and types in cervical and penile samples.7,10,36-38 The low agreement may be partly due to technical reasons, since a smaller amount of penile exfoliated cells may be obtained in men relative to the cellular yield obtained from the cervix. In some couples, the partner who has been sampled may not be the relevant one in determining the woman's risk of HPV persistence and progression to cervical neoplasia. Agreement in HPV findings, however, was also modest in couples where both the wife and husband reported only one lifetime sexual partner.10 In some of these studies the timing of the sampling of penile and cervical specimens at a relatively old age is the likeliest explanation for HPV discordance, since spontaneous regression of HPV infection is common in men39 and in women who do not develop cervical neoplasia.40 Among women with cervical neoplasia, the relevant infection may have occurred many years earlier, and the relatively low prevalence of penile HPV infection in their husbands suggests that viral shedding of advanced cervical lesions is limited. Also point detection of penile HPV may measure relatively recent exposures to HPVs that may be unrelated to the initiation of cervical neoplasia in the wife. Male circumcision, penile HPV, and cervical cancer A recent piece of evidence confirming the importance of men in HPV transmission and cervical carcinogenesis comes from the IARC multicentric study on male circumcision.6 This study compared penile HPV DNA prevalence in circumcised and uncircumcised men to estimate a woman's risk of cervical HPV infection and that of cervical cancer according to the husband's circumcision status. We found that circumcised men were about three times less likely to harbor HPV in their penis than did uncircumcised men. Consistent with the venereal nature of HPV infections, we found that male circumcision also reduced the risk of both genital HPV infections and cervical cancer in the female partner. As shown in Figure 5 among monogamous women, circumcision status of the husband was associated with a reduced risk of cervical cancer, particularly and most strongly, among women whose male consorts had engaged in high-risk sexual behaviors as measured by an early age at first sexual intercourse, a high lifetime number of sexual partners, and sexual intercourse with women that were prostitutes. Furthermore, as shown in Figure 5, using a computed sexual behavior risk index revealed a statistically significant dose-response relationship between increasing husband's sexual behavior risk and cervical cancer risk reduction linked to circumcision in their wives. These findings confirmed for the first time the long-suspected hypothesis claiming that male circumcision might reduce the risk of cervical cancer in female partners and underlines the importance of the male in the risk of HPV acquisition and cervical neoplasia in the female partner. The male role: Closing the epidemiological chain linking HPV and cervical cancer Even though males have traditionally been much less studied than women, in the last decade data from all sorts of epidemiological study designs assessing directly or indirectly the role of men in cervical carcinogenesis have been accumulating. The large IARC studies on couples have shed new light on the largely unknown male side of the epidemiological chain of HPV and cervical cancer.2,6,7,10,13 Our current understanding is that men who have had multiple sexual partners or who are carriers of HPV DNA may be vectors of high-risk HPV types, placing their sexual partners at a high risk of cervical cancer. The key question though is how men acquire the virus in the penis in the first place. It is now well established that penile HPVs are predominantly acquired through sexual contacts. Sexual contacts with prostitutes play an important role in HPV transmission and sex workers may be an important population reservoir of high-risk HPVs. Through sexual intercourse with high-risk women, HPVs enter the penis which can then be transmitted to the current stable partner or to subsequent sexual partners. Men are thus the vectors of oncogenic HPV types that are usually found in cervical carcinomas. Circumcision is also likely to modulate the risk of penile HPV acquisition, the risk of transmission to the partners as well as the long-term risk of cervical cancer. At the ecological level, populations in which the sexual habits of men greatly differ from those of women, male promiscuity in general, and sexual contacts with prostitutes in particular, is likely. Under these circumstances, a woman's risk of being infected and develop cervical cancer depends much more on the sexual behavior of her partner than on that of her own.1 Conclusions Experimental, clinical, and epidemiological evidence strongly suggests that genital HPVs are predominantly sexually transmitted. As with any STI men are implicated in the epidemiological chain. Penile HPVs are predominantly acquired through sexual contacts notably, at least in some populations, with prostitutes who become an important reservoir of high-risk HPVs. Acting both as "carriers" and "vectors" of oncogenic HPVs male partners may be important contributors to the risk of developing cervical cancer in their female partners. Male circumcision status has also been shown to influence not only the risk of acquiring and transmitting genital HPVs but also the risk of cervical cancer in women with promiscuous sex partners. 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