

Park Surgery, Horsham.

## **Human Papillomavirus (HPV) .**

There are over 80 different types of HPV, and approximately one third can infect genital tissue including the cervix (the neck of the womb where cervical smears are taken). Some types of HPV, particularly types 6 and 11, cause genital warts. Other types, particularly types 16 and 18, can cause cervical cancer.

HPV is a sexually transmitted disease and is the commonest sexually transmitted viral infection in the UK. Most infections with HPV are transient and usually clear within 2 years. Studies have shown that in the USA 15% of sexually active adults have HPV infection. The highest rates are found in the 18-24 age group. The incidence of HPV infection gradually decreases up to the age 40-45 years, but it then seems to increase slowly again.

### **Cervical Smears.**

Abnormalities of the cervix cannot be seen by just looking at it, but they can be detected by taking smears and examining the cells on the smears under a microscope. HPV virus is too small to be seen under the microscope but sometimes changes in the appearance of the cells suggests the presence of HPV. The newest HPV tests can detect the presence of HPV but do not define the type of virus. LBC (Liquid Based Cytology) testing is now to be introduced to analyse smears and this, together with adjustments to the frequency of cervical smears will enable the the screening process to be improved.

It is important to note that visible genital warts and HPV changes on a smear are not usually associated with the higher risk types of HPV (types 16 and 18).

Cervical smears are now offered to women every 3 years between the ages of 25 and 49 years, and 5 yearly between 50 to 64.

### **Cervical Smear Reporting.**

The cervical smear report may contain terms such as "borderline changes", CIN 1, CIN 2 or CIN 3. So called "borderline changes" is a holding category, and another smear would be done in 6 months to see if the cells have changed further or reverted to normal. Abnormal smears are called Cervical Intraepithelial Neoplasia, or CIN for short. CIN 1, CIN 2 and CIN 3 are grades of abnormality of the cells, CIN 3 showing the greatest changes. After this various stages of cervical cancer are described, but biopsy of the cervix would be required before invasive cancer could be diagnosed. Biopsies are also performed in cases of CIN1,2 or 3 to confirm the diagnosis, so not all women having biopsies would be suspected of having cancer changes.

Cervical screening is not a precise science, and the national press have latched onto the few cases where cancers were not detected by smears. This might sell newspapers, but causes considerable unnecessary alarm amongst women. The truth is that no screening program will ever detect 100% of cases correctly all the time. Every country in the world has the same problems with the so-called "false negative" rate that we do.

Results and reminders are sent to the patient from the Health Authority in Worthing. Although they appear to have been sent by your GP (his or her name appears at the bottom of the letter) your GP has had nothing to do with the production of the letter!. It is produced by a computer mail-merge in Worthing. Any letter from your GP would be sent on Park Surgery headed paper and signed.

### CIN Changes.

"Borderline changes", dyskaryosis and CIN 1 often revert to normal without treatment, possibly because the HPV virus can be suppressed by the body. However, if the virus persists CIN 1 can progress to CIN 3 in 10% of cases. CIN 2 progresses to CIN 3 in 20% of cases. About 12% of cases of CIN 3 progresses to invasive cancer. Hence only about 1 in 100 cases of CIN 1 progress to cancer, and 1 in 50 cases of CIN 2 progress to cancer. Note that in practice most cases of CIN 3 initially present as CIN 3, and not as a progression from CIN 1.

### Colposcopy.

Sometimes, and more commonly nowadays, colposcopy is performed in hospital out-patients. Here the cervix can be examined directly with a special microscope, stained to reveal any abnormal areas, and biopsies taken (painlessly) to provide more certain proof of minor or major abnormalities. Abnormalities can be treated at colposcopy by excision, freezing, laser and in other ways.

### HPV and Cervical disease.

HPV infection is probably the main cause of cervical smear abnormalities. 5% of smears in the USA are abnormal. 250,000 women in the UK have borderline or mildly abnormal smears every year. HPV's fall into two broad camps: low risk types (including types 6 and 11 - see above) and high risk types (including types 16 and 18). 50-80% of CIN 2 and CIN 3, and 90% of cervical cancers are associated (that is, probably caused) by types 16 and 18.

### Future Developments.

It is possible to find out exactly which type of HPV a patient has by blood tests or special tests on the cervical smear glass-slide. Unfortunately this can only be done in research centres and is not available either privately or on the NHS.

There have recently been reports suggesting that in future HPV testing could be used in conjunction with cervical screening, or possibly as a first-line

screening method itself. It could detect those women who are more likely to progress to invasive cancer - those with HPV types 16 or 18. These women could be followed up more closely and treated more extensively to prevent cancer occurring. Women with HPV types known to be low risk types could be saved the need for frequent repeat smears, colposcopies and unnecessary worry.

### What Can I Do?.

HPV is a virus and cannot therefore be treated with antibiotics. There are no anti-viral agents available either. The brightest hope for the future is for a vaccine to HPV, particularly types 16 and 18. There is a vaccine currently being tested, but it will be about 10 years before the results are known. After that there would have to be further consideration given to the possible introduction of a mass vaccination program.

Of course, having multiple sexual partners increases your risk of contracting HPV. Using condoms will offer protection against it.

You may find these websites helpful:

<http://www.hta.nhsweb.nhs.uk/execsumm/summ314.htm>

<http://www.icnet.uk/news/news1999/hpv29909.html>

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