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Cervical cancer screening

K F Tam 譚家輝, H Y S Ngan 顏婉嫦

Summary

In Hong Kong, cervical cancer is the 4th commonest malignancy in females. Cervical cytology screening is effective in reducing the incidence and mortality of cervical cancer. Women should have regular cervical smears from the time they start to have sexual activity until they reach the age of 65. A cervical smear should be taken and handled properly, so that the sensitivity of the test will not be affected by the quality of the smear. Most of the laboratories in Hong Kong are now using the Bethesda System to report cervical smears. In order to manage patients properly, doctors should be familiar with this classification.

Who should be screened?

Women are advised to have cervical cytology screening when they become sexually active until the age of 65. However, a woman over the age of 65 who has never had a cervical smear should also be screened. The age limits for cervical screening have been a subject of debate. According to the recommendation of the Intercollegiate Working Party in 1997, the cervical screening programme in England and Wales is targeted at women between 20 and 64 years of age. If previous cervical smears have been consistently normal, women can be discharged from the screening programme after the age of 65.

Women having risk factors for cervical cancer and who have not had a cervical smear before, should be encouraged to have a cervical smear.

Frequency of cervical smear

The reduction in the cumulative incidence of cervical cancer is 93% with annual or biannual screening interval, 91% if performed every 3 years, 84% if performed every 5 years and 64% if performed every 10 years. Women having normal cervical smears on two consecutive years could have the interval spaced out to 3 years without reducing the chance of detecting cervical cancer, and at a lower cost. However, in high-risk patients like those who are immunosuppressed or those who have a history of abnormal cervical smear, annual screening is advised.
In the Bethesda System, the term Low-grade Squamous Intraepithelial Lesion (LSIL) is used to correlate with the histological diagnosis of Cervical Intraepithelial Neoplasia (CIN) grade I. In the presence of human papilloma virus changes, the smear will still be classified as LSIL even when no features of intraepithelial neoplasia are seen. High-grade Squamous Intraepithelial Lesion (HSIL) correlates with CIN grade II-III. Atypical Squamous Cells of Undetermined Significance (ASCUS) means squamous cell abnormalities that cannot be accounted for by reactive changes but do not fulfill the criteria for a specific squamous lesion. According to the 1996 Hong Kong colposcopy data, 15% of the patients having persistent ASCUS have high-grade CIN or even invasive disease.

Dealing with abnormal cervical smears

An abnormal smear gives a cytological diagnosis. Cervical intraepithelial neoplasia must then be diagnosed histologically. A woman with a cytological screening result showing a significant chance of having CIN II-III, should be referred to the colposcopy clinic for assessment. If a gross tumour is seen on speculum examination, urgent referral to a gynaecologist for a biopsy to diagnose cervical cancer should be advised. In case of ASCUS or inflammation, cervical smear should be repeated in 3 to 6 months to allow for regeneration of cervical epithelium. If no gross lesion is seen, please refer to Table 1 and Figure 1 for decision.

Before referring patients to the colposcopy clinic, the reason for referral should be explained to them in order to reduce their anxiety. Some patients might think that they are suffering from cervical cancer.

The colposcopist will examine the transformation zone using a colposcope, an instrument incorporating a magnifying lens. Application of acetic acid and Lugol’s iodine on to the cervix help to show up abnormal areas and biopsy will be taken from these abnormal sites for a histological diagnosis. The vagina would also be inspected during colposcopic examination. Histological confirmation of the colposcopic diagnosis is advised before embarking on treatment.

Treatment for cervical intraepithelial neoplasia

If a low-grade lesion is confirmed by colposcopy and biopsy, the patient can be observed because 85% of them will return to normal in 2 years without treatment, although 15%
Table 1: Management of abnormal cervical smear

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<th>Cervical smear</th>
<th>Significance</th>
<th>Suggested actions</th>
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<tr>
<td>Normal</td>
<td>0.1% CIN II-III</td>
<td>Normal screening programme (once every 3 years after 2 normal annual smears).</td>
</tr>
<tr>
<td>Inflammatory</td>
<td>May mask HGSIL or invasive cancer</td>
<td>Treat confirmed infection. Repeat smear in 3-6 months and refer for colposcopy if abnormality persists.</td>
</tr>
<tr>
<td>ASCUS</td>
<td>In persistent ASCUS: 14% CIN II-III, 0.7% microinvasive, 0.2% invasive</td>
<td>Repeat smear in 3-6 months. Refer for colposcopy if abnormality persists.</td>
</tr>
<tr>
<td>Low grade squamous intraepithelial lesion (LSIL)</td>
<td>13.4% CIN II-III, 0.1% microinvasive</td>
<td>Refer for colposcopy and biopsy.</td>
</tr>
<tr>
<td>High grade squamous intraepithelial lesion (HSIL)</td>
<td>69.5% CIN II-III, 2.3% microinvasive, 3.5% invasive</td>
<td>Refer for colposcopy and biopsy.</td>
</tr>
<tr>
<td>Invasive cancer</td>
<td>53.8% microinvasive or invasive</td>
<td>Biopsy if frank growth, otherwise early referral for colposcopy and biopsy.</td>
</tr>
<tr>
<td>Abnormal glandular cells of undetermined significance (AGUS)</td>
<td>17% HG, 5% AIS, 2% invasive adenocarcinoma</td>
<td>Refer for colposcopy and biopsy, then cone biopsy and D &amp; C may be required.</td>
</tr>
<tr>
<td>Endometrial cells at inappropriate time</td>
<td>(after menopause) 7% adenocarcinoma, 13% hyperplasia, 38% endometrial polyp</td>
<td>Investigate for endometrial pathology.</td>
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* 1996 Hong Kong colposcopy data, some data with colposcopy performed only after persistent ASCUS

** Hong Kong colposcopy data includes persistent ASCUS at second or third smears

(Source: Guidelines on the management of an abnormal smear, The Hong Kong College of Obstetricians and Gynaecologists)

Figure 1: The algorithm in the management of abnormal cervical smear
Key messages

1. Women are advised to have cervical smear screening when they start having sexual activity until the age of 65.

2. Women having normal cervical smear results in two consecutive years could have the interval spaced out to 3 years.

3. Cervical smear should be taken properly. Cervical cells collected should be properly transferred to the slide with immediate fixation.

4. Doctors should be familiar with the Bethesda system which is the most commonly used reporting system in Hong Kong.

5. Patients having abnormal cervical smear results should be informed and properly managed. They should have the significance of the results explained to them, and the reason for referral, if indicated.

of them may progress to higher grade lesions. However, for patients who are likely to default further assessment, treatment can be offered after adequate explanation.

If a high-grade lesion (CIN II/III) is confirmed, treatment is suggested because a significant proportion will progress to invasive cancer if left untreated. The time of progression to invasive disease can vary from months to years. The risk of progression from CIN III to invasive disease is more than 12%.^8^

Call-recall system

The effectiveness of a call-recall system in encouraging women to have a cervical smear has been confirmed by randomised controlled trial. Women belonging to the targeted population should be invited to have cervical smears. A recall system should be available to call patients with abnormal cervical smears and to remind women who are due for screening. Being informed of a normal cytology result should be reassuring and might make the screening programme more successful.

Reading materials

Please visit the website (http://www.hkcog.org.hk/collegeguidelines.htm) of The Hong Kong College of Obstetricians and Gynaecologists for a full text of the Guidelines on the Management of An Abnormal Cervical Smear.

References