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RED FLAG!

Cervix appears normal after examination

Refer urgently to appropriate specialist (should be seen within 2 weeks)

Information resources

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Suspected cervical dysplasia and cancer

1 Background information

Quick info:
Scope:
• assessment and management of cervical dysplasia (cervical intra-epithelial neoplasia; CIN) and squamous and adenomatous cell cervical cancers in primary and secondary care in:
  • women of reproductive age
  • adolescents (age 13-20 years)
  • pregnant women
  • postmenopausal women
• consider ‘Menstrual cycle irregularities and post-menopausal bleeding (PMB)’ pathway
Out of scope:
• management of CIN and cervical cancer in immunocompromised patients
Incidence:
• cervical cancer is the second most common cancer in women worldwide [1]
• in the UK, there are approximately 2,800 cases of cervical cancer per year and 1,000 women die from cervical cancer each year [2]
• cervical cancer is rare in women younger than age 20 years, rapidly increases in incidence between ages 25 and 36 years, and has a peak incidence in the 35-39 age group [3]
• population screening reduces the incidence of cervical cancer and reduces the proportion of women with advanced disease
• it is estimated that the screening programme in the UK saves approximately 5,000 lives per year [2]
• 80% of cervical cancers are squamous cell carcinomas and 20% rare adenocarcinomas, adenosquamous carcinomas, and other rare types [1]
Aetiology:
• human papillomavirus (HPV) is the cause of pre-cancerous abnormalities of the cervix
• HPV has over 100 subtypes and is present in over 95% of pre-invasive and invasive squamous carcinomas of the cervix [4]
• CIN is the most common pre-malignant lesion characterised by atypical squamous changes in the transformation zone of the cervix; with mild, moderate or severe changes described by their depth (CIN 1, 2, or 3)
• if CIN progresses it becomes squamous cancer
• glandular pre-cancerous abnormalities (cervical glandular intra-epithelial neoplasia; cGIN) develop into cervical adenocarcinoma but are much rarer
Risk factors:
• the aetiological association is restricted to a limited number of viral types of the human papillomavirus (HPV)
• HPV DNA can be identified in all specimens of invasive cervical cancer
• infection with HPV is common but cervical cancer is not, therefore HPV infection alone is not sufficient to cause cervical cancer
• cofactors that increase the risk of developing cervical cancer among HPV DNA positive females include:
  • the use of oral contraceptives for 5 years or more
  • smoking
  • multiplicity of sexual partners
  • early participation in sexual activity
• previous exposure to other sexually transmitted infections (STIs), such as:
  • Chlamydia trachomatis (C. trachomatis)
  • herpes virus type 2
• infection with HIV increases the risk of:
  • HPV infection
  • HPV DNA persistency; and
  • progression of HPV lesions to cervical cancer
Prognosis:
• survival ranges from almost 100% 5-year disease-free survival for treated stage IA disease to 5-15% in stage IV disease [1]
• survival in women with more locally advanced tumours is influenced by:
  • tumour bulk
  • the person's age
  • coexistent medical conditions
• untreated mortality in locally advanced disease is high
NB: This information appears on each page of this pathway.
References:
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2 Information resources for patients and carers

Quick info:
Patients and carers in England can access this pathway through NHS Choices at http://healthguides.mapofmedicine.com/choices/map/cervical_dysplasia_and_cancer1.html

The following resources have been produced by organisations certified by The Information Standard:

• ‘Cervical cancer’ (URL) from Bupa at http://www.bupa.co.uk
• ‘Cervical cancer’ (URL) from Cancer Help UK at http://www.cancerhelp.org.uk
• ‘Cervical cancer’ (URL) from Datapharm at http://www.medguides.medicines.org.uk
• ‘Cervical cancer’ (URL) from Macmillan Cancer Support at http://www.macmillan.org.uk
• ‘Cervical Cancer (Cancer of the Cervix)’ (PDF) from Patient UK at http://www.patient.co.uk

Information for carers and people with disabilities is available at:
• ‘Caring for someone’ (URL) from Directgov at http://www.direct.gov.uk
• ‘Disabled people’ (URL) from Directgov at http://www.direct.gov.uk

Patient stories describing their care journeys are available at ‘Healthtalkonline’ (URL) from DIPEx at http://www.healthtalkonline.org

Explanations of clinical laboratory tests used in diagnosis and treatment are available at ‘Understanding Your Tests’ (URL) from Lab Tests Online-UK at http://www.labtestsonline.org.uk

The Map of Medicine is committed to providing high quality health and social care information for patients and carers. For details on how these resources are identified, please see Map of Medicine Patient and Carer Information.

NB: This information appears on each page of this pathway.

3 Updates to this pathway

Quick info:
Date of publication: 29-Jul-2011

Interim update:
This pathway has been updated according to feedback from the National Cancer Action Team (NCAT).

Date of publication: 29-Apr-2011

Interim update:
This pathway has been updated according to feedback from the National Cancer Action Team (NCAT) and information added in line with the following reference:


Date of publication: 31-Jan-2011

Three floating nodes now appear at the top of each pathway page. These provide:

• easy access to scope and background information on each page of the pathway whilst reducing repetition between nodes
• easy access to patient resources/leaflets
• information on pathway updates

This pathway was updated in line with the following guidelines:

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Further information was provided by the following references: [4,8,11,12,15-22,26-28]
For further information, please see the pathway’s Provenance.
The pathway has been completely restructured and redrafted in line with the Map of Medicine editorial methodology and to bring it in line with current clinical practice.
NB: This information appears on each page of this pathway.

4 Cervical dysplasia and cancer – clinical presentations

Quick info:
Cervical dysplasia and cancer can present symptomatically in older women, who are usually post-menopausal [8]. Younger women of reproductive age can present asymptotically with abnormal cervical cytology results following routine cervical screening [8].

Symptomatic clinical presentation:
• postmenopausal bleeding
• dyspareunia
• postcoital vaginal bleeding or discharge
• intramenstrual vaginal bleeding or discharge
• blood-stained vaginal discharge
• pelvic pain

Asymptomatic clinical presentation:
• abnormal cervical appearance on examination
• abnormal cervical cytology on routine screening

Associated symptoms are common and non-specific but should be investigated appropriately as they may indicate significant pathology.

In women age 20-24 years, the cardinal symptom of cervical cancer is postcoital bleeding, but persistent intermenstrual bleeding, which is more common, also requires attention.

References:

5 Symptomatic presentation

Quick info:
Establish a gynecological history, including:
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- last menstrual period
- sexual history
- previous obstetric history
- previous history of sexually transmitted infections (STIs)

Review risk factors for cervical cancers, including:
- human papillomavirus (HPV) infection
- smoking
- low socioeconomic status
- high parity (five or more full term pregnancies)
- previous exposure to STIs
- immunocompromise
- hormonal contraception
- low attendance for cervical screening

Perform a physical examination, including:
- general examination
- external genitalia
- speculum examination

This information was drawn from the following references:

6 Routine cervical screening

Quick info:
Cervical screening detects precancerous changes of the cervix, known as cervical intraepithelial neoplasia (CIN) [2]:
- women should be encouraged to be screened regularly [2,5,7]
- before screening, explain the following to the woman [6]:
  - what the condition cervical screening will detect, ie precancerous lesion
  - when and how results will be made available
  - the likelihood of a normal result (about 90%)
  - that a normal result implies low risk, not no risk
  - the meaning of being recalled:
    - an inadequate/ unsatisfactory smear
    - an abnormal smear
  - that the vast majority of women recalled do not have cancer, any disease detected is treatable
  - all females who have screening tests should receive a written statement of the results [6]

References:

7 Consider differential diagnoses

Quick info:
Similar symptoms can result from a variety of conditions, including [2]:
- vaginitis or cervicitis
- ectropion
- cervical polyps or warts
- pelvic inflammatory disease (PID)
- endometriosis
- endometrial cancer
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• chlamydia

Reference:

8 Frequency of screening

Quick info:
Screening is indicated in the following age groups in England and Northern Ireland and should be monitored [7]:
• age 25 years – first invitation
• ages 25-49 – three yearly
• ages 50-64 – five yearly
• age 65 years and over – only screen those who have not been screened since age 50 years or who have had recent abnormal tests

Screening women at regular intervals reduces the likelihood of pre-cancerous cells and invasive cancer being missed on the basis of a previous false-negative result [9].

References:

9 Screening techniques

Quick info:
Screening methods:
• liquid-based cytology (LBC) is used as the primary means of processing samples in the cervical screening programme across the UK and has reduced the rate of inadequate tests taken [9]
• fewer women have to undergo repeat testing and reduces anxiety associated with testing [9]
• LBC facilitates reflex human papillomavirus (HPV) testing in certain circumstances, which can minimise repeat testing and women’s apprehension concerning test results [10]
• other screening strategies currently under investigation include [7]:
  • HPV testing as a form of risk assessment
  • immunoenhanced testing using antibodies to cell cycle proteins
  • electro-optical technologies

References:

10 RED FLAG!

Quick info:
RED FLAG:
• if the cervix appears abnormal and suspicious on vaginal examination, urgently refer the woman for further investigations (within 2 weeks) [3,5]
• refer postmenopausal women presenting with abnormal vaginal bleeding for gynaecological investigation [2]
• a cervical smear test is not required before referral, and a previous negative cervical smear result is not a reason to delay referral [3]
• postmenopausal bleeding with normal cervix on examination, refer urgently for transvaginal ultrasound (TVUS) with or without endometrial biopsy, depending on endometrial thickness [11]

References:
Cervix appears normal after examination

Quick info:
Consider the following for premenopausal women [5]:
- a routine cervical screening if patient has not previously had one
- testing for cervical infection, eg chlamydia, Neisseria gonorrhoeae (N. gonorrhoeae), herpes
- triple swabs can be taken to screen for infections [11]

Tests can be performed in general practice, family planning clinics or genitourinary (GUM) clinics [5].

Any positive tests for sexually transmitted infections (STIs) need to be treated appropriately [5].

Chlamydia testing [2]:
- many signs and symptoms of cervical cancer are similar to genital Chlamydia trachomatis (C. trachomatis)
- if appropriate, both pre- and postmenopausal patients should be tested for chlamydia but this should not delay investigations for cervical dysplasia or cancer, as chlamydia may co-exist with these

Reconsider options for differential diagnoses – symptoms can result from a variety of conditions, including [2]:
- vaginitis or cervicitis
- ectropion
- cervical polyps or warts
- pelvic inflammatory disease (PID)
- endometriosis
- endometrial cancer
- chlamydia

References:

Screening considerations for select patients

Quick info:

Adolescents and young women:
- screening is not routinely indicated in women under age 25 years [5,10]:
  - cervical cancer is very rare in women under age 25 years [7]
  - women below age 25 years often undergo natural and harmless changes in the cervix that screening would identify as cervical abnormalities [10]
  - screening has not been shown to be effective at reducing the incidence of invasive cancer in this age group [7]
  - screening is recommended in women from age 25 years in England and Northern Ireland [11]

Pregnant women [7]:
- if a woman has been called for routine screening and she is pregnant, the test should be deferred
- if a previous test was abnormal and in the interim the woman becomes pregnant, the test should not be delayed but should be taken in mid-trimester unless there is a clinical contraindication
- if a pregnant woman requires colposcopy or cytology after treatment (or follow-up of untreated cervical intraepithelial neoplasia [CIN 1]), her assessment may be delayed until after delivery
- unless there is an obstetric contraindication, however, assessment should not be delayed if a first follow-up cytology or colposcopy is required following treatment for cervical glandular intraepithelial neoplasia, or treatment for CIN 2/3 with involved or uncertain margin status
- the colposcopist may wish to perform only colposcopy at a follow-up appointment in pregnancy
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- if repeat cytology is due, and the woman has missed or defaulted her appointment prior to pregnancy, consideration should be given to her having the cytology or colposcopy during pregnancy

Women who have had a hysterectomy or are undergoing a hysterectomy for other reasons:
- women who have undergone subtotal hysterectomy and retained their cervix should continue with screening according to the guidelines [10]
- screening is not indicated in women who have had a hysterectomy for benign disease with complete removal of the cervix and who have no history of biopsy-confirmed cervical precancer or cancer [10]
- all women in the cervical screening age range undergoing a hysterectomy for other gynaecological reasons should have a negative test result within the screening interval, otherwise, a cervical sample should be taken as part of their preoperative investigations [7]

References:

15 Abnormal cytology result following routine cytology screening

Quick info:
Results following a cytology test that are classified as abnormal cytology include [6]:
- borderline nuclear abnormality
- mild, moderate or severe dyskaryosis
- severe dyskaryosis or suspected invasive carcinoma
- glandular neoplasia or suspected glandular neoplasia

Abnormal results and contraception use [7]:
- women with abnormal cervical screening results should not be advised to change from the oral contraceptive pill if it is a successful method of contraception
- an abnormal result should not influence the choice of contraception

References:

16 Normal cytology results

Quick info:
Results following a cervical cytology test that are classified as normal cytology include [6]:
- negative
- inadequate
- negative but with incidental observations

References:

17 Prevention of cervical cancer

Quick info:
Vaccination:
- any woman who is sexually active is at risk of infection from human papillomavirus (HPV) [2]
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• two prophylactic vaccines have been developed and have been shown to be effective in young women prior to HPV exposure [2,12]:
  • both target HPV types 16 and 18 (these cause approximately 70% of cervical cancers)
  • one of the vaccines also targets HPV types 6 and 11 (responsible for genital warts)
  • long term follow-up is needed to establish reductions in cervical cancer incidence and mortality [12]
References:

18 Provide patient information

Quick info:
Provide patient information and support [6,13]:
• receiving the diagnosis of abnormal cervical cytology is a traumatic occurrence for many women – provide:
  • written information at the initial cervical cancer screening test explaining the role of cervical cytology
  • basic information about some of the potential results, and emphasise the fact that most such findings may require nothing further than repeating the cytology or undergoing relatively simple evaluations such as colposcopy
  • consider sending out written material specific to the patient's diagnosis and recommended procedures and follow-up to help them prepare for the next stage
  • clinicians need to be sensitive to any anxiety a patient may have in receiving an abnormal cervical cytology result and should assess and manage appropriately
References:

19 Surveillance

Quick info:
Surveillance and screening:
• ongoing screening is recommended for women [14]:
  • who have not been previously screened
  • where previous screening is unlikely
  • whose results are unknown
  • with high risk factors
  • women who have received human papillomavirus (HPV) vaccination should continue screening according to the guidelines [14]
  • the decision to stop screening should be made in consultation with the woman’s GP, considering issues such as potential benefits, harms and limitations of screening [14]
References:
Suspected cervical dysplasia and cancer

Key Dates

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Evidence summary for Suspected cervical dysplasia and cancer

This pathway has been developed according to the Map of Medicine editorial methodology (http://mapofmedicine.com/whatisthemap/editorialmethodology). The content of this pathway is based on high-quality guidelines [1-3,5-7,9,10,13,14,23-25], critically appraised meta-analyses and systematic reviews [4,12,15-22,26,28]. Practice-based knowledge has been added by contributors with front-line clinical experience [8,11], including any literature endorsed by the contributor group [27,29].
Search date: Sep-2010

References

This is a list of all the references that have passed critical appraisal for use in the care map Cervical dysplasia and cancer

ID Reference
11 Contributors representing National Cancer Action Team. 2011.
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ID Reference

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