Gynaecology

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Cervical cancer

Cervical cancer is the second most common malignancy in women worldwide with only breast cancer ocurring more commonly Internationally, 500,000 new cases are diagnosed and about 250,000 deaths each year .

Major risk factors

1-HPV infection.

Strong evidence now implicates human papillomaviruses (HPVs) as prime suspects. HPV viral DNA has been detected in more than 90% of squamous intraepithelial lesions (SILs) and invasive cervical cancers compared to a consistently lower percentage in controls.HPV especially types 16 & 18 are the most commonly associated with cervical cancer.this relationship leads to the developement of vaccines both to prevent and treat this disorder and its precursors (CIN)

2- Early marriage & sex at a young age,

3-multiple sexual partners and liberal sex

4-high parity

5-young age at 1st pregnancy

6-low socioeconomic status

7-smoking

8-history of sexually transmitted diseases

Pathophysiology

The majority (80-85%) of cervical cancers are squamous cell carcinomas with adenocarcinomas making up most of the remainder. In the developed world, with screening programmes, there has been a relative fall in the numbers of squamous tumours and a relative rise in the incidence of adenocarcinomas.rare types include clear cell , lymphoma and sarcoma.The tumours are locally infiltrative in the pelvic area, but also spread via lymphatics and in the late stages via blood vessels. The tumour can grow through the cervix to reach the parametria (anatomical area lateral to the cervix), bladder, vagina and rectum. Metastases can occur therefore in pelvic (iliac and obturator) and para-aortic nodes and, in the later stages, liver and lungs.

Clinical presentation

1-may be asymptomatic(early or microinvasive).it is detected by abnormal cervical cytology.

2-in more advanced lesions,there are usually symptoms raising the possiplity of cervical cancer .these include:

i-postcoital bleeding

ii-intermenstrual or postmenopausal bleeding

iii-offensive vaginal discharge ,may be blood stained or profuse

iv-if there is abnormal bleeding during pregnancy , then cervical lesion needs to be excluded

3-presentation may be with late disease.like:

i-backache

ii-leg pain

iii-leg aedema

iv-haematuria

v-bowel changes

vi-malaise ,weight loss and anaemia

vii-urinary fistula

viii-renal failure

Diagnosis

1-a full history

2-clinical examination is undertaken.

If the tumor is large it may look like a friable polyp or an ulcerated area that bleds on contact,or atypical consistency on bimanual examination.if the referral is due to cervical cytology suspiciuos of invasion,then

3-a colposcopic examination should be performed

Suspicious features at colposcopy include:

i-intense acetowhiteness

ii-atypical vessels

iii-raised\ulcerated surface

4-definitive diagnosis is based on histopathological study of appeopriately taken biopsy

Staging

Staging should include an assessment of disease ,extent and the sites of spread.it is a clinical staging although early cancers are staged according to the surgical specimen.

Clinical assessment and investigation for initial evaluation of the stage

0 examination under anasthesia EUAshould include a combined recto-vaginal assessment

0 cystoscopy

0 sigmoidoscopy

0 CXR and IVU

0 other imaging as indicated such as CT scan and MRI scan

Stage o or carcinoma insitu or CIN III

Stage1*Carcinoma confined to the cervix*
1a: Invasive cancer identified only microscopically. All gross lesions, even with
superficial invasion, are stage 1b cancers. Depth of measured stromal invasion
should not be greater than 5 mm and no wider than 7 mm
1b clinically visible lesions (macroscopical)or preclinical cancers greater than stage 1a
2 Carcinoma extending beyond the cervix and involving the vagina *(but not the*
lower third) and/or infiltrating the parametrium (but not reaching the pelvic sidewall)

2a: Carcinoma has involved the vagina
2b: Carcinoma has infiltrated the parametrium
3 Carcinoma involving the lower third of the vagina and/or extending to the
pelvic sidewall *(there is no free space between the tumour and the pelvic*

sidewall)
3a: Carcinoma involving the lower third of the vagina
3b: Carcinoma extending to the pelvic wall and/or hydronephrosis or nonfunctioning kidney due to ureteric obstruction caused by tumour
4 carcinoma extends beyond the true pelvis
4a: Carcinoma involving the mucosa of the bladder or rectum and/or extending
beyond the true pelvis
4b: Spread to distant organs

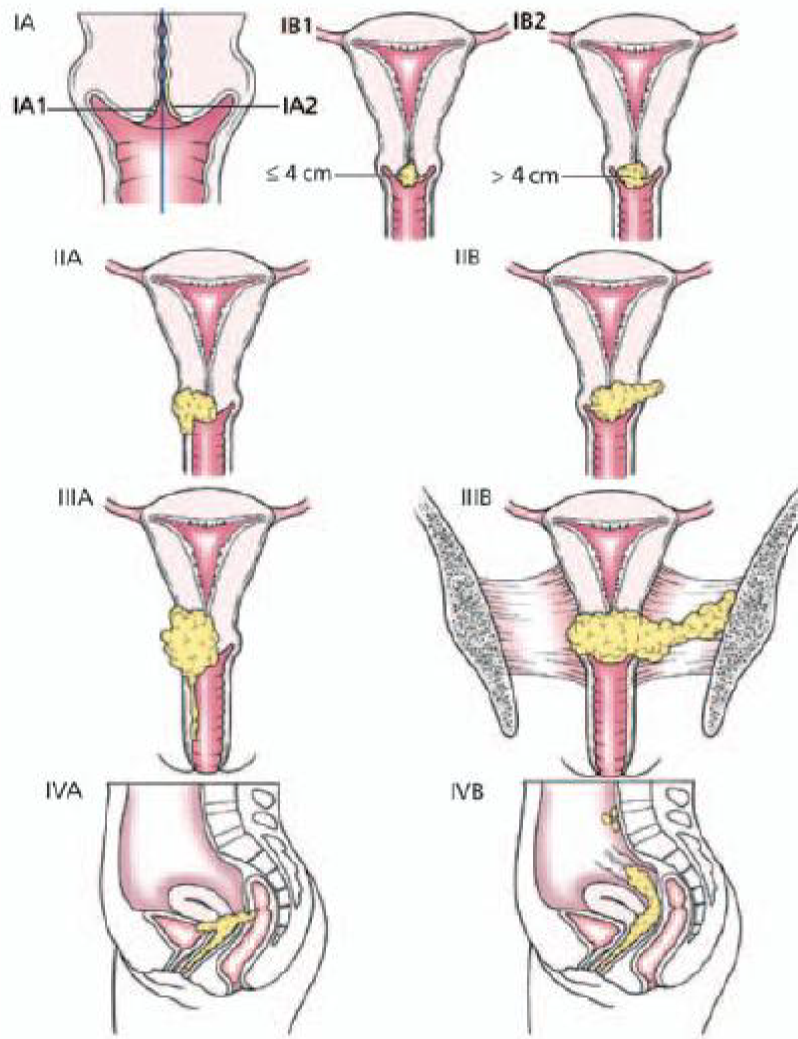

Fig. 36.3 Carcinoma of the cervix uteri: staging cervical cancer (primary tumour and metastases) (Benedet *et al.*, 2001).

Treatment

For stage 0 local excision or ablation

stage 1 preclinical (microscopical) the treatment is conservative by local excision (a colposcopically directed cone biopsy)and sometimes if the lesion is deeply invading (3-5 mm)there is a 5%risk of nodal involvementif treated conservatively so it need more radical surgery, or trachelectomy (total excision of the cervix), with more advanced disease it need more radical surgery.

From stage 1 B to stage IV the treatment is ranging between radical surgery to combined surgery and radiotherapy or combined radiochemotherapy accordingly

If the disease is apparently confined to the cervix either surgery or chemoradiotherapy may be offered. Both forms of treatment are probably equally effective although for premenopausal women in particular, surgery offer lower morbidity.

Surgery

The standard surgical procedure for carcinoma of the cervix is a Wertheim hysterectomy, which involves removal of (the uterus, the paracervical tissues surrounding the cervix, the upper vagina, the pelvic lymph nodes).the dissection of LN both diagnostic and therapeutic.if a large number of LN are involved the patient should recieve adjuvant radiotherapy but if only one or two LN are involved the pelvic dissection is sufficient and if the patient has a squamous tumour the ovaries may be conserved. Although the vagina is shortened by 2-3 cm, the sexual function is preserved.

The principal complications seen following this procedure are:

1- difficulty with complete bladder emptying

2- lymphoedema of the legs and mons pubis.

Radiotherapy

Radical radiotherapy for cervical carcinoma involves the use of:

1- external beam therapy to shrink the central carcinoma and also to treat the possible sites of regional metastasis.

2- Internal sources are then placed in the upper vagina and within the canal of the cervix to provide a very high dose to the central tumour.Most patients tolerate this treatment well.

Complications:

1- some damage to the bladder and bowel is inevitable, diarrhoea during treatment is usual, and is resolved after treatment is finished.

2- A radiation menopause is induced in premenopausal women.

3- some loss of elasticity within the vagina with narrowing. This can be reduced by the use of vaginal dilators and early resumption of sexual activity.

Radiotherapy is also used in an adjuvant setting following surgery when there is high risk of recurrence.

In advanced cancer of the cervix, radiotherapy is palliative treatment:

1- to reduce vaginal bleeding and discharge and 2-to assisst local control of the disease.

Adjuvant radiotherapy following surgery used in

1-If more than one or two LN ae positive

2-the excision margins are close

3-if the tumor was bulkyand has high chance of recurrence

Chemotherapy

may also be used in an adjuvant setting prior to surgery rather than following surgery.response rate is 60%

Carcinoma of the cervix and pregnancy

1- In early pregnancy, external irradiation may be given; abortion of a dead fetus will follow and then local irradiation with caesium can be given.

2- Later in pregnancy, the uterus must be emptied by hysterotomy or Caesarean section followed by radiotherapy.

Sometimes Wertheim hysterectomy at the time of Caesarean section is done

Surgery for advanced disease or recurrent disease:

Pelvic exenteration

Pelvic exenteration may be considered in a few selected cases of recurrent disease after radiotherapy where the disease is spread to the rectum or bladder but no evidence of distant metastases including Anterior(removing uterus,vagina ,bladder with reimplantation of the ureters in the ileal loop), posterior(removing uterus .vagina and rectum with terminal colostomy) and total exenteration

Palliative treatment

Palliative treatment in advanced stages of the disease (inoperable or recurrent disease). Patients must be kept free from pain and as comfortable as possible. Expert nursing is necessary, especially when incontinence is present.

Survival

Survival is stage dependent and the advanced stages are associated with a poor prognosis. The 5-year relative survival rate for all women treated for invasive cervical cancer is 61% in UK.

The 5-year relative survival rates is:

80% for stage I,

74% for stage II,

47% for stage III

and 25% for stage IV.