23

Ovarian Carcinoma (with comments on fallopian tube carcinoma)

1. GROSS DESCRIPTION

Specimen

— fine needle aspirate/wedge biopsy/oophorectomy and/or cystectomy/uni-/bilateral salpingo-oophorectomy ± hysterectomy/omentectomy/lymphadenectomy.
— weight (g) and size (cm).
— peritoneal washings. If diagnostic ascitic fluid has not been previously submitted or is not present at laparotomy, peritoneal staging washings are carried out. The pathologist should correlate the histological and cytological findings to determine an appropriate tumour stage. Distinction between hyperplastic mesothelial cells and borderline/malignant serous epithelial cells can be particularly problematic, emphasizing the need for close correlation.
— presentation of ovarian cancer in 70% of cases is late at an advanced stage of disease and with non-specific symptoms such as abdominal fullness or swelling. A high risk-malignancy index equates to post menopausal status, a solid or cystic lesion with septation on abdominal ultrasound scan and elevated serum CA125. Further investigations include CT scan chest/abdomen/pelvis and peritoneal ascitic fluid aspiration for cytology. If a benign cyst is suspected FNA may be used or unilateral salpingo-oophorectomy considered, particularly in a young woman of childbearing age. Otherwise suspected malignant ovarian lesions are treated by total abdominal hysterectomy and bilateral salpingo-oophorectomy with omentectomy.

Tumour

Site

— ovarian (cystic, cortical, medullary, hilar or serosal)/paratubal/broad ligament.
— serosal tumour is associated with a worse prognosis than an equivalent cortical or intracystic lesion. Medullary, hilar or paraovarian tumour nodules may indicate a metastatic deposit rather than a primary lesion.
— unilateral/bilateral (30–40% of serous epithelial lesions).

Size
— length × width × depth (cm) or maximum dimension (cm).

Appearance
Capsule: intact/deficient, smooth/rough.
Cut surface:

— cystic: uni-/multilocular
warty growths/nodules
fluid contents: serous/mucoid
sebaceous content: hair/teeth/colloid (struma ovarii)
— solid: partially/totally (cm)
necrosis/haemorrhage.
— ovarian cancer tends to have a mixed cystic and solid appearance. The former comprises uni-/multiloculated thin-walled cysts with warty/nodular/papillary/solid areas of tumour growth which can be internal (endophytic) or serosal (exophytic). In lesions with a smooth external surface, areas of capsular deficiency should be actively sought and the relationship to any tumour noted, either caused by it (due to capsular infiltration), or overlying or away from it. The latter may be due to surgical dissection through a plane of adhesions or intra-operative rupture because of the size/cystic nature of the lesion, respectively. It is therefore important to determine the mechanism and part of the tumour that is deficient or ruptured in assessing potential spillage of benign, borderline or malignant cells into the peritoneal cavity so that the clinicopathological meeting can assign an appropriate FIGO/TNM stage. The solid component of ovarian cancer tends to be somewhat friable and pale in appearance. Other visual diagnostic clues include: granulosa cell tumour (pale/fleshy/cystic), steroid cell tumour and carcinoid (yellow), thecoma/fibroma (white, whorled cut surface with yellow areas, lobulated), metastatic melanoma (pigmented), immature teratoma (dermoid cyst with solid areas other than calcification/teeth), malignant lymphoma (pale/fleshy) and metastases (multiple, nodular corticomedullary/ serosal/ para-ovarian/paratubal deposits).

Edge
— circumscribed/irregular.

Fallopian tube: length (cm); infiltration of paratubal connective tissue.

Omentum: weight (g) and size (cm); tumour nodules: number/maximum dimension (cm).

2. HISTOLOGICAL TYPE

Epithelial and sex cord stromal lesions form 60–70% of ovarian tumours (75% of which are benign) and 90–95% of primary ovarian malignancy, the majority of which arises from the surface (coelomic) epithelium. Epithelial tumours are classified according to their cell type, growth pattern (solid, cystic, surface), amount of fibrous stroma and neoplastic potential of the constituent epithelium (benign, borderline or malig-