Serous tubal intraepithelial carcinoma (STIC) (Required)

Reason/Evidentiary Support

Recently, serous tubal intraepithelial carcinoma (STIC) has been implicated in the pathogenesis of extra-uterine high-grade serous carcinoma. The evidence indicating that STIC is a precursor of most high-grade serous carcinomas that were formerly considered to be of tubal, ovarian or primary peritoneal origin, as well as guidelines for assigning primary site in cases of advanced stage non-uterine, high-grade serous carcinoma, have already been provided (see Note 5 MACROSCOPIC TUMOUR SITE/HISTOLOGICAL SITES OF TUMOUR INVOLVEMENT). STIC comprises a population of cytologically malignant epithelial cells replacing the normal tubal mucosa, most commonly involving the fimbria, and characterized by increased nuclear to cytoplasmic ratio with rounded nuclei, loss of cell polarity, coarsely clumped chromatin, prominent nucleoli and absence of ciliated cells. Additional features that may be present include epithelial stratification, small fracture lines in the epithelium and tufting and exfoliation from the tubal surface of small epithelial cell clusters.

The diagnostic criteria for STIC have evolved and guidelines for diagnosis, which include the use of p53 and Ki-67 (MIB1) immunostaining, have been published. Use of these criteria results in a high degree of inter-observer diagnostic agreement. In discrete fallopian tube mucosal lesions (usually, but not always, located in the fimbria) with high-grade atypia in non-ciliated epithelium, the presence of abnormal p53 immunostaining (strong diffuse staining or complete absence of staining) and high Ki-67 labelling index (≥ 10%) support a diagnosis of STIC. Although immunostains are a valuable adjunct in the diagnosis of isolated lesions of the fallopian tube, they are usually not needed to diagnosis STIC in the context of advanced stage HGSC, where comparison between the tubal mucosal lesion and HGSC elsewhere reveals identical cytological features, with high-grade atypia and numerous mitotic figures. Fallopian tube epithelial lesions with atypia that do not meet all the criteria for STIC (e.g. tubal intraepithelial lesion in transition/serous tubal intraepithelial lesion, synonymous terms for such lesions that have some but not all features of STIC) are of uncertain significance at present and these diagnoses should not be used in routine practice; additional research is required to determine the clinical significance, if any, of such lesions. Similarly p53 signatures should not be reported.

A last consideration is that fallopian tube mucosal involvement by uterine or non-gynaecological primary tumours can occur and mimic STIC. Most cases with unilateral or bilateral HGSC in the ovary and/or STIC or HGSC in the tube but with an endometrial serous intraepithelial or invasive carcinoma will represent adnexal metastases from an endometrial serous carcinoma, and WT1 may be of value in these cases (see Note 20 IMMUNOHISTOCHEMICAL MARKERS). A diagnosis of STIC always requires consideration of clinical and pathological findings and the exclusion of secondary involvement of the fallopian tube.

References: