

**RECOMMENDATIONS FOR THE REPORTING OF FALLOPIAN TUBE  
NEOPLASMS**

Teri A. Longacre, M.D. (Chairperson); Esther Oliva, M.D.; and Robert Soslow, M.D.  
Departments of Pathology, Stanford University, Massachusetts General Hospital,  
Memorial Sloan-Kettering Cancer Center

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Address correspondence to:

Teri A. Longacre, M.D.  
Stanford University  
Department of Pathology  
300 Pasteur Drive  
Stanford, CA 94305  
(650) 498-6460  
longacre@stanford.edu

## **RECOMMENDATIONS FOR THE REPORTING OF FALLOPIAN TUBE NEOPLASMS**

### **Features to be Included in the Final Pathology Report**

Primary malignancies of the fallopian tube are extremely uncommon, in part due to (admittedly arbitrary) definitional criteria. By convention, epithelial tumors that involve the ovary or peritoneal surfaces are considered to have arisen either in the ovary or endometrium or, in absence of significant ovarian or endometrial involvement, in the peritoneum, irrespective of whether or not the fallopian tube mucosa is also involved. Evidence from the World Health Organization and more recently, from case-control studies of BRCA-mutation carriers suggests the fallopian tube may have a more direct role in the development of at least some of these carcinomas. An alternative hypothesis for the origin of ovarian and peritoneal carcinoma has even been proposed, based on the concept of transport and implantation of malignant cells from the tube to the ovary and peritoneum. Malignancies in the fallopian tube can therefore be classified as (1) arising primarily in the fallopian tube, either from preexisting endometriosis (or more rarely, a mature teratoma) or directly from tubal mucosa with metastasis to adjacent tissues; (2) arising in the ovary, endometrium or peritoneum with metastasis to the tubal serosa or mucosa; or (3) arising primarily in the fallopian tube as well as in the ovary, endometrium or peritoneum (simultaneous primary tumors). Since there are currently no evidence-based criteria for distinguishing primary tubal carcinoma from primary ovarian or primary endometrial carcinoma in patients with high stage disease, the ADASP recommended strategies for assignment of site of origin are based on current standard practices.

## **I. General Description**

- A. How the specimen is identified: name, medical record, laterality.
- B. How the specimen is received: intraoperative, fresh, formalin.
- C. Procedure: salpingectomy, partial salpingectomy, salpingo-oophorectomy, staging procedure (specify).
- D. Relevant clinical history.

Note: Although these guidelines and the accompanying checklist are chiefly designed for fallopian tube malignancies, the processing of fallopian tubes from patients with known gene mutations that are associated with a predisposition to tubal carcinoma (e.g., BRCA1, BRCA2, etc.) requires special handling (see recommended sections for prophylactic salpingectomy below).

## **II. Gross Description**

- A. Specimen received intact, fragmented, with (or without) attached ovary, etc.
- B. Size in three dimensions.

- C. Tumor mass: location (e.g., isthmus, ampulla, infundibulum, fimbria), size (in three dimensions), appearance, necrosis, depth of invasion (mucosal, intramural, penetrates serosal surface, etc.), relationship to contiguous structures (e.g., adhered to ovary, pelvic peritoneum, etc.).
- D. Presence of cysts, adhesions, nodules: size and region of involvement (e.g., ampulla, isthmus, fimbria).
- E. Lumen: normal, dilated or occluded.
- F. Fimbria: normal, fused.

### **III. Recommended Sections**

- A. Fallopian tube
  - a. Fallopian tube primary tumor mass: At least three sections. Sections should be taken to demonstrate relation to uninvolved tubal mucosa, depth of invasion, and involvement of contiguous structures, if present.
  - b. Prophylactic: Section fallopian tube(s) at 2- to 3-mm intervals and submit entirely for microscopic examination. Tubal fimbriae should be

extensively sectioned, either by serial cross sections or preferably, by serial sagittal (lengthwise) sections to maximize examination of the tubal plicae.

- c. Routine: Section fallopian tube(s) at 2- to 3-mm intervals and submit 3 sections to represent isthmus, ampulla and infundibulum/fimbria (1 block).

#### B. Ovaries

- a. Ovaries should be serially sectioned, and carefully examined with all suspicious areas submitted to exclude stromal or surface involvement by carcinoma (possible primary site).

#### C. Uterus

- a. Cervix should be serially sectioned and carefully examined with sufficient sections submitted to exclude cervical involvement by carcinoma.
- b. Endometrium should be serially sectioned and carefully examined with sufficient sections submitted to exclude endometrial involvement by carcinoma (possible primary site).
- c. Routine sections of myometrium, serosa.

#### D. Omentum

- a. Sections of gross tumor, if present. Note size of largest gross tumor deposit.
- b. Multiple sections are optimal when no tumor is present on gross evaluation, since studies in ovarian cancer have demonstrated improved tumor detection in this setting. However, there are no established guidelines regarding number of sections.

E. Lymph nodes

- a. Sample each grossly positive lymph node.
- b. Submit entire grossly negative lymph node(s). Bivalve through hilum if large.

F. Other staging biopsies

- a. Submit entirely, if small.
- b. Representative sections if grossly positive or if grossly negative and large.

G. All sections should be specified by a unique letter or number.

**IV. Diagnostic Information**

A. Type of procedure

B. Histologic type of tumor (modified WHO)

Benign epithelial

Papilloma

Metaplastic papilloma (metaplastic papillary tumor)

Cystadenoma (serous, mucinous, etc)

Borderline epithelial

Serous tumor of low malignant potential

Endometrioid tumor of low malignant potential

Mucinous tumor of low malignant potential

Malignant epithelial

Carcinoma in situ

Serous carcinoma

Endometrioid carcinoma

Mucinous carcinoma

Clear cell carcinoma

Transitional cell carcinoma

Squamous cell carcinoma

Mixed carcinoma

Undifferentiated carcinoma

Metastatic carcinoma

Mixed epithelial-mesenchymal

Adenofibroma

Adenosarcoma

Carcinosarcoma

Germ cell tumors

Teratoma

Mesothelial

Adenomatoid tumor

Mesothelioma

Gestational trophoblastic disease

Hydatidiform mole

Choriocarcinoma

Placental site trophoblastic tumor

Others, specify

- C. Histologic grade of fallopian tube carcinoma: Report tumor grade and specify grading system. There is no standard grading system for tubal carcinoma. Although completely arbitrary, the Gynecologic Oncology Group (GOG) studies use a single grading system for ovary, endometrium and fallopian tube. The chief advantage of this system is that it serves to maintain consistency in diagnosis and classification. Other grading schemes have also been proposed for gynecological cancer, including two-tiered systems, which also have merit, particularly with respect to ovarian and extra-ovarian serous carcinoma. We do not recommend any one system over another; however the ADASP does recommend use of a single grading system for all mullerian epithelial malignancies, whenever possible. The Association acknowledges

that there is a need for future refinement and standardization in histologic grading of these malignancies. The ADASP Fallopian Tube Neoplasms checklist uses a modification of the GOG system.

D. Maximum dimension

E. Depth of invasion.

Note: It is recommended that the presence of invasion into lamina propria be distinguished from invasion into muscularis mucosa, whenever possible, even though current AJCC/FIGO staging systems do not distinguish between the two.

F. Presence of in situ carcinoma in adjacent uninvolved tubal mucosa.

Note: The fallopian tube may exhibit a variety of epithelial proliferative changes which do not necessarily reflect a neoplastic or malignant process. Strict histologic criteria should be utilized before rendering a diagnosis of in situ carcinoma, since this may lead to a staging procedure and prophylactic chemotherapy.

G. Involvement of ovary or endometrium: The presence of significant ovarian parenchymal or endometrial involvement by tumor of similar histologic type excludes primary fallopian tube carcinoma. Parenchymal involvement of the ovaries, if present, should be minimal (e.g.,  $\leq 0.5$  cm), predominantly

confined to the surface and of significantly smaller magnitude than the tubal tumor in order for the carcinoma to be considered a primary tubal neoplasm.

There are no established or recommended size criteria with respect to the presence of endometrial involvement, but myometrial invasion, cervical stromal involvement, and/or lymphovascular space invasion are more likely to be associated with a primary endometrial tumor with metastasis to the tube than a tubal primary or simultaneous tubal and endometrial primary. The above criteria are admittedly arbitrary, but serve to maintain consistency in diagnosis and classification.

- H. Involvement of other pelvic or intra-abdominal structures, omentum, lymph nodes.
- I. Other findings: salpingitis (acute/chronic/granulomatous), salpingitis isthmica nodosa, hydrosalpinx, hematosalpinx, Walthard cell rests, paratubal mullerian cysts, tubo-ovarian adhesions, endosalpingiosis, endometriosis, etc.
- J. Additional studies (report as appropriate)
  - a. Cytology: correlate with surgical findings (e.g., positive ascitic fluid or peritoneal washings should reflect the diagnosis of the primary fallopian tube tumor).
  - b. Immunoperoxidase studies (p53) The distinction between atypical proliferative tubal epithelial lesions and in situ carcinoma can be

difficult. The presence of inflammation and admixed ciliated cells favors a benign process, but some cancers may also be associated with an inflammatory cell infiltrate. In general, carcinoma in situ is strongly immunoreactive for p53, whereas reactive processes are not.

- c. Receptor status (ER/PR).
- d. Growth factors (HER2neu).

### **Optional Features in Diagnostic Report**

In some cases, one or more of the following features may impact on the diagnosis or prognosis.

- A. The presence of endometriosis, although not a feature of the current staging system, may help to establish a primary site in some instances.
- B. The presence of an associated mature teratoma. This may be especially useful in establishing primary site for squamous or mucinous carcinoma.
- C. Presence of absence of vascular invasion, irrespective of vessel type.

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