

Protocol for the Examination of Specimens from Patients with Tumors of the Peritoneum

Protocol applies to all primary borderline and malignant epithelial tumors and malignant mesothelial neoplasms of the peritoneum.

No AJCC/UICC TNM Staging System

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Procedure

- Resection

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CAP Peritoneum Protocol Revision History

Version Code

The definition of the version code can be found at www.cap.org/cancerprotocols.

Version: Peritoneum 3.0.0.0

Summary of Changes

No changes have been made since the October 2009 release.

Surgical Pathology Cancer Case Summary (Checklist)

Protocol web posting date: October 2009

PERITONEUM: Resection

Select a single response unless otherwise indicated.

Specimen (select all that apply)

- Peritoneum
 Omentum
 Bilateral ovaries
 Bilateral fallopian tubes
 Uterus
 Other (specify): _____
 Not specified

Procedure

- Peritoneal resection
 Omentectomy
 Hysterectomy with bilateral salpingo-oophorectomy
 Other (specify): _____
 Not specified

Lymph Node Sampling

- No lymph node sampling
 Obturator lymph nodes
 Common iliac lymph nodes
 Periaortic lymph nodes
 Inguinal lymph nodes
 Pelvic lymph nodes not otherwise specified (NOS)
 Retroperitoneal lymph nodes NOS
 Other lymph nodes (specify): _____

Tumor Site

- Specify: _____
 Cannot be determined

Tumor Size (Peritoneum / Omentum)

- Greatest dimension: ____ cm
 *Additional dimensions: ____ x ____ cm
 Cannot be determined (see Comment)

Tumor Focality

- Unifocal
 Multifocal
 Cannot be determined

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

Size of Other LocationsLeft Ovary

- No tumor
 Confined to surface epithelium
 Surface and cortical stroma involvement
 Only ovarian substance involvement
 Greatest dimensions: ___ x ___ cm
 *Additional dimension: ___ cm
 Cannot be determined (see Comment)

Right Ovary

- No tumor
 Confined to surface epithelium
 Surface and cortical stroma involvement
 Only ovarian substance involvement
 Greatest dimensions: ___ x ___ cm
 *Additional dimension: ___ cm
 Cannot be determined (see Comment)

Other (specify): _____

Greatest dimension: ___ cm

*Additional dimensions: ___ x ___ cm

 Cannot be determined (see Comment)**Histologic Type (Note A, Note B)**

- Malignant mesothelioma, epithelioid
 Malignant mesothelioma, sarcomatoid (spindle cell)
 Malignant mesothelioma, biphasic
 Malignant mesothelioma, other (specify): _____
 Serous borderline tumor (of low malignant potential)
 Serous carcinoma
 Other malignant tumor of Mullerian type (specify): _____
 Other (specify): _____
 Malignant tumor, type cannot be determined

Histologic Grade (Note C)

- Not applicable (borderline neoplasms and mesotheliomas)
 GX: Cannot be assessed
 G1: Well differentiated
 G2: Moderately differentiated
 G3: Poorly differentiated
 Other (specify): _____

***Lymph-Vascular Invasion**

- * Not identified
 * Present
 * Indeterminate

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

***Effusions**

- * Positive ascites/peritoneal washings
- * Positive pleural effusions
- * Indeterminate

***Metastasis**

- * None identified
- * Microscopic peritoneal metastasis beyond pelvis (no macroscopic tumor)
- * Macroscopic peritoneal metastasis beyond pelvis 2 cm or less in greatest dimension
- * Peritoneal metastasis beyond pelvis more than 2 cm in greatest dimension and/or regional lymph node metastasis
- * Liver capsule metastasis
- * Liver parenchymal metastasis
- * Other (specify): _____
- * Cannot be determined

***Additional Pathologic Findings (select all that apply)**

- * None identified
- * Ferruginous bodies
- * Endosalpingiosis
- * Endometriosis
- * Mesothelial inclusion cysts
- * Other (specify): _____

***Ancillary Studies**

- * Specify: _____

***Clinical History**

- * Specify: _____
- * Not specified

***Comment(s)**

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

Explanatory Notes

A. Histologic Type

This protocol refers only to primary borderline and malignant epithelial tumors of the peritoneum. Secondary tumors, for example, those causing pseudomyxoma peritonei (almost always of appendiceal origin), are not addressed. However, in some cases "peritoneal spread" of a serous borderline tumor may actually reflect a primary peritoneal tumor rather than a metastasis from the ovary.

Classification of Peritoneal Tumors

Benign

- Adenomatoid tumor
- Benign multicystic mesothelioma (multilocular peritoneal inclusion cyst)
- Mesothelial cyst(s) (unilocular) (free or attached)
- Well-differentiated papillary mesothelioma
- Solitary fibrous tumor (fibrous mesothelioma) (usually benign)

Malignant

- Diffuse malignant mesothelioma
 - Epithelioid type
 - Sarcomatoid type
 - Biphasic type
 - Rare types[#]
- Serous tumor of borderline malignancy (of low malignant potential)^{1-3 ##}
- Serous carcinoma^{4-8 ###}
- Malignant tumors of other Mullerian types
- Sarcomas

[#] Rare types include desmoplastic, small cell, lymphohistiocytoid, deciduoid, and undifferentiated types.

^{##} When this tumor involves the extraovarian peritoneum significantly and the ovarian surface minimally or not at all, it is generally considered to be of peritoneal origin.

^{###} The Gynecological Oncology Group has adopted the following criteria for the diagnosis of primary peritoneal serous carcinoma:

1. Both ovaries are either normal in size or enlarged by a benign process. In the judgment of the surgeon and the pathologist, the bulk of the tumor involves the peritoneum, and the extent of tumor involvement at 1 or more extraovarian sites is greater than that on the surface of or within either ovary.
2. Microscopic examination of the ovaries reveals: (a) no tumor; (b) tumor confined to the surface epithelium, with no evidence of cortical invasion; (c) tumor involving the ovarian surface and the underlying cortical stroma, but less than 5 x 5 mm in diameter; or (d) tumor less than 5 x 5 mm within the ovarian substance, with or without surface involvement.
3. The histologic and cytologic characteristics of the tumor are predominantly serous and similar or identical to those of ovarian serous papillary carcinoma of any grade.
4. If an oophorectomy has been performed in the past, a confident diagnosis of primary peritoneal serous carcinoma requires 1 of the following: (a) a pathology report to

document the absence of carcinoma in the ovarian specimen, with review of all the slides if the oophorectomy has been performed within 5 years of the current procedure; (b) if the oophorectomy has been performed more than 5 years before the current procedure, the pathology report of the specimen should be obtained, and the slides should be reviewed if still available. The peritoneal tumor should be interpreted in light of the ovarian findings.

B. Special Studies

Histochemical, immunohistochemical, and electron microscopic studies are helpful to routine microscopic evaluation in the diagnosis of mesothelioma. These tumors are usually mucicarmine and Pas-D negative. They may be positive for Alcian blue or colloidal iron stains. Mesotheliomas usually are positive for different keratins, including cytokeratins 5/6, EMA, thrombomodulin, WT1, D2-40 (podoplanin), and calretinin. They are usually negative for CEA, B72.3, BER-EP4, and CD15 (Leu-M1), although they may be positive for single antibodies. In all these cases, a panel of antibodies is recommended. (For further detail, see Thoracic Mesothelium protocol.)

C. Histologic Grade

There is no established grading system for malignant mesotheliomas. Serous and other Mullerian-type tumors can be graded according to the criteria used for similar tumors in the female genital tract, as shown below. (For further detail, see Ovary protocol.)

Grade X	Cannot be assessed
Grade 1	Well differentiated
Grade 2	Moderately differentiated
Grade 3	Poorly differentiated (tumors with minimal differentiation seen in very small foci)

D. Staging of Peritoneal Tumors

There is no widely accepted staging system for peritoneal tumors, but their extent may have prognostic significance.⁹ Thus, it is important to determine whether a mesothelioma is unifocal, multifocal, or diffuse¹⁰; and whether there are lymph node or distant metastases. Peritoneal serous carcinomas are generally staged as though they were stage II to stage IV ovarian cancers. (For further detail, see ovary protocol.)

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