Protocol for the Examination of Lymphadenectomy Specimens From Patients With Malignant Germ Cell and Sex Cord-Stromal Tumors of the Testis

Version: 4.1.0.1  
Protocol Posting Date: November 2021  
The use of this protocol is recommended for clinical care purposes but is not required for accreditation purposes.

This protocol should be used for the following procedures AND tumor types:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymphadenectomy</td>
<td>Includes specimens designated retroperitoneal lymphadenectomy</td>
</tr>
</tbody>
</table>

Tumor Type  

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ cell tumors</td>
<td>Includes seminoma and variants, all non-seminomatous germ cell tumors, mixed germ cell tumors,</td>
</tr>
<tr>
<td></td>
<td>Leydig cell tumors, Sertoli cell tumors, granulosa cell tumors, and placental site trophoblastic</td>
</tr>
<tr>
<td>Sex cord-stromal tumors</td>
<td>Includes Leydig cell tumors, Sertoli cell tumors, granulosa cell tumors, and mixed sex cord tumors</td>
</tr>
</tbody>
</table>

The following should NOT be reported using this protocol:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radical orchietectomy</td>
<td>(consider Testis Radical Orchietectomy protocol)</td>
</tr>
</tbody>
</table>

Tumor Type  

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paratesticular malignancies</td>
<td>(consider Soft Tissue protocol)</td>
</tr>
<tr>
<td>Non-testis germ cell tumors</td>
<td>(consider Extragonal Germ Cell protocol)</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>(consider the Hodgkin or non-Hodgkin Lymphoma protocols)</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>(consider the Soft Tissue protocol)</td>
</tr>
</tbody>
</table>

Authors  

Satish K. Tickoo, MD*; Gladell P. Paner, MD*; Ming Zhou, MD, PhD*; Lara R. Harik, MD; Robert Allan, MD; Mahul B. Amin, MD; Sam S. Chang, MD; Peter A. Humphrey, MD, PhD; James M. McKiernan, MD; Jason Pettus, MD; Victor E. Reuter, MD; John R. Srigley, MD; Thomas M. Ulbright, MD.

With guidance from the CAP Cancer and CAP Pathology Electronic Reporting Committees.

* Denotes primary author.
Accreditation Requirements
The use of this case summary is recommended for clinical care purposes but is not required for accreditation purposes. The core and conditional data elements are routinely reported. Non-core data elements are indicated with a plus sign (+) to allow for reporting information that may be of clinical value.

Summary of Changes

v 4.1.0.1

- The CAP made no changes to Cancer Protocol content. We updated metadata only for the electronic Cancer Checklists (eCC), requiring a version number change for the Word and PDF Cancer Protocols.
Reporting Template

Protocol Posting Date: November 2021
Select a single response unless otherwise indicated.

CASE SUMMARY: (TESTIS: Retroperitoneal Lymphadenectomy)
Standard(s): AJCC-UICC 8
This template is recommended for reporting retroperitoneal lymphadenectomy specimens, but is not required for accreditation purposes.

CLINICAL

+Prelymphadenectomy Treatment (select all that apply)
  ___ No known preresection therapy
  ___ Chemotherapy performed
  ___ Radiation therapy performed
  ___ Therapy performed, type not specified
  ___ Not specified

SPECIMEN

+Regional Nodal Site(s) Examined (specify): _________________

+Number of Regional Nodal Groups Examined
  ___ Specify number: _________________
  ___ Other (specify): _________________
  ___ Cannot be determined: _________________

+Nonregional Nodal Site(s) Examined (specify): _________________

+Number of Nonregional Nodal Groups Examined
  ___ Specify number: _________________
  ___ Other (specify): _________________
  ___ Cannot be determined: _________________

TUMOR

Histologic Type of Metastatic Tumor (Note A)
  ___ Seminoma
  ___ Seminoma with syncytiotrophoblastic cells
  ___ Embryonal carcinoma
  ___ Yolk sac tumor, postpubertal type
  ___ Choriocarcinoma
  ___ Mixed germ cell tumor (specify components and approximate percentages): _________________
  ___ Non-choriocarcinomatous trophoblastic tumor, NOS
  ___ Placental site trophoblastic tumor
  ___ Epithelioid trophoblastic tumor
  ___ Cystic trophoblastic tumor
  ___ Teratoma, postpubertal type
___ Teratoma with somatic-type malignancy (specify type): _________________
___ Spermatocytic tumor
___ Spermatocytic tumor with a sarcomatous component
___ Well-differentiated neuroendocrine tumor (monodermal teratoma)
___ Other histologic type not listed (specify): _________________
___ Cannot be determined: _________________

+Histologic Type Comment: _________________

Histologic Viability of Tumor (if applicable) (select all that apply)
___ Not applicable
___ Viable teratoma present
___ Viable non-teratomatous tumor present
___ Viable tumor not identified
___ Other (specify): _________________
___ Cannot be determined: _________________

LYMPH NODES

Regional Lymph Node Involvement

Number of Regional Lymph Nodes with Tumor
___ Exact number (specify): _________________
___ At least (specify): _________________
___ Other (specify): _________________
___ Cannot be determined (explain): _________________

Regional Nodal Site(s) with Tumor (select all that apply)
___ Interaortocaval: _________________
___ Paraaortic: _________________
___ Paracaval: _________________
___ Preaortic: _________________
___ Precaval: _________________
___ Retroaortic: _________________
___ Retrocaval: _________________
___ Other (specify): _________________
___ Cannot be determined: _________________

+Size of Largest Nodal Metastatic Deposit

Specify in Centimeters (cm)
___ Exact size: _________________ cm
___ At least: _________________ cm
___ Greater than: _________________ cm
___ Less than: _________________ cm
___ Other (specify): _________________
___ Cannot be determined (explain): _________________

Site of Largest Nodal Metastatic Deposit (select all that apply)
___ Interaortocaval
___ Paraaortic: _________________
___ Paracaval: _________________
___ Preaortic: _________________
___ Retroaortic: ____________________
___ Retrocaval: ____________________
___ Other (specify): ____________________
___ Cannot be determined: ____________________

Size of Largest Lymph Node or Nodal Mass
Specify in Centimeters (cm)
___ Exact size: ____________________ cm
___ At least: ____________________ cm
___ Greater than: ____________________ cm
___ Less than: ____________________ cm
___ Other (specify): ____________________
___ Cannot be determined (explain): ____________________

Histologic Subtype of Germ Cell Tumor in Largest Involved Lymph Node (if applicable):
_________________

Extranodal Extension (ENE)
___ Not identified
___ Present
___ Cannot be determined: ____________________

Number of Regional Lymph Nodes Examined
___ Exact number: ____________________
___ At least (specify): ____________________
___ Other (specify): ____________________
___ Cannot be determined (explain): ____________________

Nonregional Lymph Node Status (Note B)
___ All nonregional lymph nodes negative for tumor metastasis
___ Tumor metastasis present in nonregional lymph node(s) (M1a, AJCC 8th edition)
+Number of Nonregional Lymph Nodes with Tumor
___ Exact number (specify): ____________________
___ At least (specify): ____________________
___ Other (specify): ____________________
___ Cannot be determined (explain): ____________________

+Nonregional Nodal Site(s) with Tumor: ____________________

+Number of Nonregional Lymph Nodes Examined
___ Exact number (specify): ____________________
___ At least (specify): ____________________
___ Other (specify): ____________________
___ Cannot be determined (explain): ____________________
___ Other (specify): ____________________
___ Cannot be determined (explain): ____________________
___ Not applicable
PATHOLOGIC STAGE CLASSIFICATION (pN, AJCC 8th Edition)

Reporting of pN category is based on information available to the pathologist at the time the report is issued. As per the AJCC (Chapter 1, 8th Ed.) it is the managing physician’s responsibility to establish the final pathologic stage based upon all pertinent information, including but potentially not limited to this pathology report.

N Descriptors (select all that apply)
___ Not applicable: _________________
___ r (recurrent)
___ y (post-treatment)

pN Category
___ pN not assigned (cannot be determined based on available pathological information)
___ pN0: No regional lymph node metastasis
___ pN1: Metastasis with a lymph node mass 2 cm or smaller in greatest dimension and less than or equal to five nodes positive, none larger than 2 cm in greatest dimension
___ pN2: Metastasis with a lymph node mass larger than 2 cm but not larger than 5 cm in greatest dimension; or more than five nodes positive, none larger than 5 cm; or evidence of extranodal extension of tumor
___ pN3: Metastasis with a lymph node mass larger than 5 cm in greatest dimension

COMMENTS

Comment(s): _________________
Explanatory Notes

A. Histologic Type
The protocol mainly applies to malignant tumors of the testis, the vast majority of which are of germ cell origin. It may also be applied to other malignant or potentially malignant tumors of the testis included in the classification shown below.1,2,3,4,5,6,7,8,9,10,11,12 For hematolymphoid neoplasms involving the testis, refer to the corresponding CAP protocols.

World Health Organization (WHO) Histologic Classification of Testicular Tumors (2016)13

Germ Cell Tumors Derived From Germ Cell Neoplasia In Situ

Noninvasive germ cell neoplasia

Germ cell neoplasia in situ
Specific forms of intratubular germ cell neoplasia

Tumors of a single histologic type (pure forms)

Seminoma
Seminoma with syncytiotrophoblastic cells

Nonsemionomatous germ cell tumors

Embryonal carcinoma
Yolk sac tumor, postpubertal type

Trophoblastic tumors

Choriocarcinoma
Nonchoriocarcinomatous trophoblastic tumors
Placental site trophoblastic tumor
Epidermoid trophoblastic tumor
Cystic trophoblastic tumor

Teratoma, postpubertal type
Teratoma with somatic-type malignancy

Nonsemionomatous germ cell tumors of more than one histologic type

Mixed germ cell tumor

Germ cell tumors of unknown type

Regressed germ cell tumor

Germ Cell Tumors Unrelated to Germ Cell Neoplasia In Situ

Spermatocytic tumor
Teratoma, prepubertal type
Dermoid cyst
Epidermoid cyst
Well-differentiated neuroendocrine tumor (monodermal teratoma)
Yolk sac tumor, prepubertal type
Mixed teratoma and yolk sac tumor, prepubertal type
York sac tumor, prepubertal type

**Sex Cord-Stromal Tumors**

*Pure tumors*

Leydig cell tumor
- Malignant Leydig cell tumor

Sertoli cell tumor
- Malignant Sertoli cell tumor
- Large cell calcifying Sertoli cell tumor
- Intratubular large cell hyalinizing Sertoli cell neoplasia

Granulosa cell tumor
- Adult granulosa cell tumor
- Juvenile granulosa cell tumor

*Tumors in the fibroma-thecoma group*

*Mixed and unclassified sex cord stromal tumor*

- Mixed sex cord-stromal tumor
- Unclassified sex cord-stromal tumor

**Tumor Containing Both Germ Cell and Sex Cord-Stromal Elements**

Gonadoblastoma

**Miscellaneous**

Ovarian epithelial-type tumors
- Serous cystadenoma
- Serous tumor of borderline malignancy
- Serous cystadenocarcinoma
- Mucinous cystadenoma
- Mucinous borderline tumor
Mucinous cystadenocarcinoma
Endometrioid adenocarcinoma
Clear cell adenocarcinoma
Brenner tumor
Juvenile xanthogranuloma
Hemangioma
Hematolymphoid Tumors
Diffuse large B-cell lymphoma
Follicular lymphoma
Extranodal Ni/T-cell lymphoma, nasal type
Plasmacytoma
Myeloid sarcoma
Rosai-Dorfman disease
Tumors of Collecting Duct and Rete Testis
Adenoma
Adenocarcinoma
Tumors of Paratesticular Structures
Adenomatoid tumor
Mesothelioma
Well-differentiated papillary mesothelioma
Epididymal tumors
Cystadenoma of the epididymis
Papillary cystadenoma
Adenocarcinoma of the epididymis
Squamous cell carcinoma
Melanotic neuroectodermal tumor
Nephroblastoma
Paraganglioma
Mesenchymal Tumors of the Spermatic Cord and Testicular Adnexa
Apipocytic tumors


Lipoma

Well-differentiated liposarcoma

Dedifferentiated liposarcoma

Myxoid liposarcoma

Pleomorphic liposarcoma

References


B. Metastatic Tumor

Often the most important distinction in patients with metastatic testicular germ cell tumor following initial chemotherapy is the differentiation of metastatic residual teratoma from nonteratomatic types of germ cell tumor. Pure teratomatous metastasis is generally treated by surgical excision alone, whereas patients who have other residual germ cell tumor components are usually treated with additional chemotherapy.