SPECIAL ARTICLE

Recommendations for the Reporting of Resected Esophageal Carcinomas

Association of Directors of Anatomic and Surgical Pathology

The Association of Directors of Anatomic and Surgical Pathology (ADASP) has named several committees to develop recommendations regarding the content of the surgical pathology report for common malignant tumors. A committee of individuals with special interest and expertise write the recommendations, and they are reviewed and approved by the council of ADASP and subsequently by the entire membership.

The recommendations have been divided into the following four major areas: (1) items that provide an informative gross description; (2) additional diagnostic features that are recommended to be included in every report if possible; (3) optional features that may be included in the final report; and (4) a checklist.

The purpose of these recommendations is to provide an informative report for the clinician. The recommendations are intended as suggestions and adherence to them is completely voluntary. In special clinical circumstances, the recommendations may not be applicable. The recommendations are intended as an educational resource rather than a mandate.

I. Features to be included in the final report—The following data document the identity and source of the specimen and provide information useful for the pathologic evaluation and subsequent staging of the neoplasm. They are generally accepted as being of prognostic value, required for therapy and/or traditionally expected

A. Gross description

1. Identifying features of the specimen—labeled with patient name, medical record number, source of specimen, etc.
2. How the specimen was received—fresh, in fixative (specify type), unopened, opened, etc., and how designated
3. Appropriate overall gross description, including nature of the specimen (segmental esophagectomy, esophagogastrectomy, etc.), measurements (including overall length of specimen, length of esophagus, length of stomach), and amount and nature of periesophageal tissue included
4. Description of opened specimen including neoplasm (gross appearance, measurements in 3 dimensions, etc.), mucosal surface away from neoplasm (evidence of Barrett's esophagus, other abnormalities), and distance of neoplasm from proximal and distal margins
   a. Note: If the lesion arises in the gastroesophageal junction region and involves both the esophagus and stomach, it should be classified as (1) an esophageal carcinoma, if the epicenter of the lesion is in the esophagus; (2) a gastric carcinoma, if the epicenter is in the stomach; and (3) a gastroesophageal junction primary, if the epicenter coincides with the esophagogastric junction. For this purpose, the gastroesophageal junction is

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defined as the junction between the tubular esophagus and the saccular stomach
5. Description of any additional structures included (stomach, pericardium, etc.)
6. If margins are inked (proximal, distal, radial), provide code
7. Paraffin block key (ideally at end rather than incorporated into narrative)

B. Diagnostic information

1. Topography—the type of specimen should be specified (esophagus, esophagus and proximal stomach, etc.)
2. Procedure—the type of surgical procedure should be stated (total or segmental esophagectomy, esophagogastrectomy); as well as how the procedure was performed, if known (transhiatal or transthoracic)
3. Histologic type of neoplasm: use of the World Health Organization (WHO) classification is recommended
   a. Squamous cell carcinoma (including pseudosarcomatous)
   b. Adenocarcinoma
   c. Adenoid cystic carcinoma (basaloid squamous)
   d. Mucoepidermoid carcinoma
   e. Adenosquamous carcinoma
   f. Undifferentiated carcinoma
   g. Other
4. Histologic grade of neoplasm: use of the American Joint Committee on Cancer grading system recommended
   a. Grade cannot be assessed (GX)
   b. Well-differentiated (G1)
   c. Moderately differentiated (G2)
   d. Poorly differentiated (G3)
   e. Undifferentiated (G4)
5. Extent of invasion of neoplasm in the esophagus, using TNM system
   a. None (Tis) Note: Although Tis refers to carcinoma-*in-situ*, the authors prefer the term high-grade dysplasia for this lesion
   b. Limited to lamina propria (intramucosal carcinoma) (T1a)
   c. Into submucosa (T1b)
   d. Into muscularis propria (T2)
   e. Into adventitia (T3)
   f. Into adjacent structures (T4)
   g. Note: In specimens resected after radiation or chemotherapy, or both, a comment should be made regarding whether viable-appearing neoplastic tissue remains. If none is identifiable, a comment regarding the extent of the radiation/chemotherapy-induced injury should be made, *i.e.*, its depth of extension into the esophageal wall as an indication of the probable depth of invasion of the neoplasm.
6. Mucosal abnormalities away from carcinoma
   a. Squamous epithelial dysplasia
   b. Presence of Barrett's metaplastic epithelium
   c. Dysplasia in Barrett's metaplastic epithelium
   d. Other
7. Surgical margins
   a. Status of proximal and distal surgical margins
   b. Status of radial (adventitial) margin
   c. If Barrett's esophagus, nature of mucosa at proximal margin (squamous *versus* Barrett's); if Barrett's, comment on presence or absence of dysplasia
   d. If distal mucosal margin is stomach, comment on any gastric abnormalities (*Helicobacter pylori* gastritis, etc.)
8. Lymph nodes—report total number of nodes/number containing metastatic carcinoma

C. Optional features to be included in the final report reflect institutional preferences or features that have not gained general acceptance as independent prognostic indicators

1. Genetic abnormalities
2. Flow cytometric analysis
3. Growth factors and receptors
4. Stage using American Joint Committee on Cancer TNM system (0-IVB)

D. Diagnostic checklist (Table 1)

TABLE 1. Diagnostic Checklist

Site of neoplasm
—Cervical esophagus (from lower border of cricoid cartilage to thoracic inlet (suprasternal notch)
—Intrathoracic esophagus (definitions given are from the AJCC manual)
—Upper portion (thoracic inlet to tracheal bifurcation)
—Mid portion (tracheal bifurcation to just above esophago-gastric junction)
—Lower thoracic portion (includes intraabdominal portion of esophagus and esophago-gastric junction
—Not specified
Type of resection
—Transthoracic
—Transhiatal
—Not specified
Resection specimen
—Esophagectomy
—Esophago-gastrectomy
—Other (specify)
Dimensions of neoplasm _ cm × _ cm × _ cm
Distance to surgical margins: _ cm to proximal margin; _ cm to distal margin
Macroscopic depth of penetration of neoplasm
—Into submucosa
—Into muscularis propria
—Through esophageal wall
—Into adjacent structures (specify: trachea, pericardium, etc.)
—Uncertain
Barrett's esophagus
—Present grossly
—Present at proximal margin grossly
—Not apparent grossly
—Uncertain
Histologic type of neoplasm
—Squamous cell carcinoma (including pseudosarcomatous)
—Adenocarcinoma
—Adenoid cystic carcinoma (basaloid squamous)
—Mucoepidermoid carcinoma
—Adenosquamous carcinoma
—Undifferentiated carcinoma
Histologic grade of carcinoma
—Grade cannot be assessed
—Well-differentiated
—Moderately differentiated
—Poorly differentiated
—Undifferentiated
Depth of infiltration of neoplasm
—High-grade dysplasia only
—Limited to lamina propria
—Into submucosa
—Into muscularis propria
—Into adventitia
—Into adjacent structures (specify)
Mucosal abnormalities away from carcinoma
—Squamous epithelial dysplasia
—Barrett's metaplastic epithelium, _ with dysplasia; _ without dysplasia
—Other (for example, heterotopic gastric mucosa in cervical esophagus ("inlet patch")
Status of surgical margins
Proximal margin free of carcinoma: _ yes; _ no
Proximal margin composed of squamous epithelium: _ yes; _ no; with dysplasia: _ yes; _ no
Proximal margin composed of Barrett's metaplastic epithelium: _ yes; _ no; with dysplasia: _ yes; _ no
Distal margin free of carcinoma: _ yes; _ no
Status of lymph nodes
—Total number of lymph nodes: _ Total number involved by metastatic carcinoma
Tissue submitted for special investigative studies
Flow cytometry: _ yes; _ no
Tissue frozen: _ yes; _ no
Other (specify)_____

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