

The 8<sup>th</sup> edition of the AJCC Cancer Staging Manual was published towards the end of last year and has been incorporated into our reports from January 1, 2018. Due to copyright considerations we are unable to present the new classification in its entirety, but we have summarised some of the most significant changes. Staging for the hepatobiliary system will follow in a subsequent instalment. These staging systems apply only to epithelial cancers (including adenocarcinoma, squamous cell carcinoma and neuroendocrine carcinoma). Different and specific staging systems are used for sarcomas, gastrointestinal stromal tumours, lymphomas and well differentiated neuroendocrine tumours.

### **Oesophagus**

- Change to now only include tumours involving GOJ with **epicentre <2cm into proximal stomach** (previously <5cm)
- Stage groupings now include pT1a (intramucosal) and pT1b (submucosal invasion)
- Separate prognostic stage groupings now exist for cTNM and ypTNM (rather than just using pTNM criteria). The 'y' prefix indicates preoperative neoadjuvant therapy which may lead to downstaging.
- **Additional factors for clinical care: tumour length, lymphovascular invasions (LVI), tumour regression grading, surgical margin, extranodal extension, HER2 status**

NB: Stage groupings for oesophagus *do not* follow an orderly progression based on T category and number of involved nodes. Staging is also modified by the histologic type (squamous cell vs adenocarcinoma), histologic grade, and location (for SCC).

### **Stomach**

- Cancers of the **cardia that do not involve the GOJ** are now staged as stomach cancer
- N3 now subdivided into 3a (7-15 regional nodes involved) and 3b ( $\geq 16$  regional lymph nodes involved) (previously N3  $\geq 7$  nodes)
- Separate prognostic stage groupings for cTNM and ypTNM (following chemoradiation)
- **Additional factors for clinical care: CEA, CA19.9, Her2, MSI**

### **Small intestine (non-ampullary duodenum, jejunum, ileum)**

- Invasion into retroperitoneum no longer included in T stage
- N1 redefined as 1 or 2 positive nodes (previously 1-3) and N2 as 3 or more nodes
- Prognostic stage groupings only apply to adenocarcinoma
- **Additional factors for clinical care: duodenum vs non-duodenum, number lymph nodes, lymphovascular invasion (LVI), MSI, presence of Crohn's disease, familial GI malignancy**

## Colon and rectum

- N1c is used for the presence of tumour deposits in the subserosa, mesentery or nonperitonealised pericolic, and perirectal or mesorectal tissue if all regional lymph nodes are pathologically negative. These are usually around neurovascular bundles. Tumour deposits are equivalent to positive nodes as a negative prognostic factor.
- M1c introduced for peritoneal carcinomatosis with or without visceral metastases
- Additional factors for clinical care: CEA, tumour regression, circumferential resection margin, lymphovascular invasion (LVI), perineural invasion, MSI, KRAS, NRAS and BRAF mutation

## Appendix

Adenocarcinomas with typical *infiltrative invasion* are classified as mucinous or non-mucinous and graded as well, moderately or poorly differentiated. Staging is based on extent of invasion (T1-4).

Mucinous neoplasms with pushing invasion and without desmoplasia are graded as low grade (LAMN) or high grade (HAMN) appendiceal mucinous neoplasm based on degree of cytological atypia. These mucinous neoplasms can result in pseudomyxoma peritonei (which can be independently classified as low grade, high grade or high grade with signet ring cells; G1-3). Changes to the T and M criteria have been made to reflect the unique behaviour of these lesions.

- New **Tis(LAMN) category** used for low grade appendiceal mucinous neoplasms with a pushing margin that do not penetrate the muscularis propria (no T1 or T2 categories)
- Presence and location of acellular mucin +/- mucinous epithelium used for staging
  - Acellular mucin or mucinous epithelium in subserosa or serosa – T3 or T4
  - Intraperitoneal acellular mucin – M1a
  - Intraperitoneal mucin with mucinous epithelium – M1b
  - Metastases to other sites – M1c
- Histologic grade is required for definition of Stage IV tumours. G1 – Stage IVA; G2, 3 – Stage IVB
- This staging system also used for goblet cell carcinoids

## Anus

- Clarification of definitions for anal, perianal, perineal and vulval tumour location
- N2 and N3 categories replaced by N1a-c (1a - inguinal, mesorectal, internal iliac; 1b - external iliac; 1c - external iliac + N1a)
- Additional factors for clinical care: tumour location, HIV status, gender, grade, HPV status