



Editorial-2

MARCHING TO THE EIGHTH EDITION.

WHAT IS NEW IN THE AJCC CANCER STAGING SYSTEM?

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The classification of cancer by anatomic disease extent, i.e. stage, is the major determinant of appropriate treatment and prognosis. Stage is an increasingly important component of cancer surveillance and cancer control and an endpoint for the evaluation of the population-based screening and early detection efforts. The Union of International cancer control (UICC) has published the UICC TNM classification of malignant tumours for over 50 years. The UICC TNM classification is the internationally accepted standard for cancer staging.

The UICC TNM Classification is an anatomically based system that records the primary and regional nodal extent of the tumour and the absence or presence of metastases.

Each individual aspect of TNM is termed as a category:

- T category describes the primary tumour site
- N category describes the regional lymph node involvement
- M category describes the presence or otherwise of distant metastatic spread

Why adopt the TNM Classification?

The UICC TNM staging system is the common language in which oncology health professionals can communicate on the cancer extent for individual patients as a basis for decision making on treatment management and individual prognosis but can also be used, to inform and evaluate treatment guidelines, national cancer planning and research.

More specifically, the objectives of the TNM classification are the following:

- Aid treatment planning,
- Provide an indication of prognosis,
- Assist in the evaluation of treatment results,
- Facilitate the exchange of information between

treatment centres,

- Contribute to continuing investigations of human malignancies,
- Support cancer control activities, including through cancer registries.

The TNM classification is a unified standard and is a prerequisite for ensuring the quality of care in all resource-settings. It goes beyond clinician practice and constitutes vital information for policy-makers developing or implementing cancer control and prevention plans and it is therefore important to include the TNM classification as part of cancer registration.

What is the AJCC?

The American Joint Committee on Cancer (AJCC) established the way cancer is communicated. Clinicians and the surveillance community count on the AJCC for the most comprehensive anatomic staging data available, the Cancer Staging Manual and Cancer Staging Atlas. They are now working with UICC as well. These AJCC publications are recognized as the authoritative guides for cancer staging information and are used by tens of thousands of medical professionals every day.

Evidence-based anatomic staging continues to be the critical factor to understanding cancer and treating patients. New breakthroughs in oncologic, radiologic, pathologic and molecular science are opening up ever-more promising possibilities for precisely defining a prognosis and recommending a treatment based on a patient's individual data.

It is with this obligation in mind that the AJCC will continue to harness the energy of hundreds of dedicated volunteers at the forefront of the fight against cancer in a collaborative, focused and unwavering effort to improve the care of every cancer patient¹.

Established in 1959, the AJCC, which is administered by the American College of Surgeons, formulates and publishes systems of classification of cancer, including staging and end-results reporting, that will be acceptable to and used by the medical profession for selecting the most effective treatment, determining prognosis, and continuing evaluation of cancer control measures.

The eighth edition of the Cancer Staging Manual—which was expected to be published in late 2015 for patients diagnosed with cancer after January 2016—incorporated advances made in cancer research, staging, diagnosis, and treatment since the seventh edition was published in October 2009. More than 500 cancer experts from around the world collaborated on the manual, covering more than 60 primary disease sites which came out in 2017 ultimately.

“There have been enormous advances in cancer diagnosis, staging, and treatment since the results of the Human Cancer Genome Project were first announced more than a decade ago,” Dr. Amin Chief Editor of eighth edition said. “As a result, we can better predict the level of cancer risk and tailor a more personalized treatment program for the patient. For the eighth edition, incorporated these newer precision medicine paradigms, as appropriate, into the more traditional anatomic extent of disease premise of the AJCC staging classification”².

Assigning Stage – The Role of the Managing Physician

Staging requires the collaborative effort by many professionals including the managing physician, pathologist, radiologist, cancer registrar and others.

- While the pathologist and the radiologist provide important staging information, and may provide important T-, N-, and/or M-related information, stage is defined ultimately from the synthesis of an array of patient history and physical examination findings supplemented by imaging and pathology data .
- Only the managing physician can assign the patient’s stage, since only (s)he routinely has access to all of the pertinent information from physical exam, imaging studies, biopsies, diagnostic procedures, surgical findings, and pathology reports.

Manual for Staging of Cancer (1977), American Joint Committee for Cancer Staging & End Result Reporting, 1st Edition “Philosophy of staging by the TNM system” “It was intended to provide a way by which designation for the state of a cancer at various points in time can be readily

communicated to others to assist in decisions regarding treatment and to be a factor in judgment as to prognosis.

8th Edition – What’s New? Formally incorporate evidence based and biostatistics rigour while evaluating new recommendations and changes through the Evidence Based Medicine and Statistics Core..

The 8th edition of the American Joint Committee on Cancer (AJCC) provides the definitive, comprehensive, proactive, global, evidence-based, contemporary, clinically relevant taxonomy of human neoplasia. Retain its base on anatomic stage and extent of disease which will be enhanced by incorporation of molecular biomarkers for more accurate disease stratification. Retain its fundamental role in defining prognosis and appropriate disease management which will be enhanced by its ability to guide precision therapy . “The Next Generation” AJCC TNM Staging System: The Bridge from a “Population Based” to a “More Personalized” Approach All disease sites will incorporate non-anatomic prognostic factors for stage grouping, if and as relevant. PM Core will lead linking of prognostic non-anatomic factors to an “AJCC-approved” prognostic risk calculating model Sites: breast, melanoma, colon, prostate, lung, head and neck, soft tissue sarcoma and select hematolymphoid malignancies³.

Breast: Among the organs, some changes in Breast cancer is highlighted here. The revision of the eighth edition of the primary tumour, lymph node, and metastasis (TNM) classification of the American Joint Commission of Cancer (AJCC) for breast cancer was determined by a multidisciplinary team of breast cancer experts. The panel recognized the need to incorporate biologic factors, such as tumour grade, proliferation rate, oestrogen and progesterone receptor expression, human epidermal growth factor 2 (HER2) expression, and gene expression prognostic panels into the staging system. AJCC levels of evidence and guidelines for all tumour types were followed as much as possible. The panel felt that, to maintain worldwide value, the tumour staging system should remain based on TNM anatomic factors. However, the recognition of the prognostic influence of grade, hormone receptor expression, and HER2 amplification mandated their inclusion into the staging system. The value of commercially available, gene-based assays was acknowledged and prognostic input added.

Immunohistochemically detected tumour markers that are known to have great practical treatment importance are now incorporated into the staging system to refine prognosis.

The eighth edition of the staging system also uses genomic assays when available to down-stage some estrogen receptor-positive, lymph node-negative tumours.

Lobular carcinoma in situ is removed from the staging system because it is not a malignancy but a risk factor. It is no longer considered Tis⁴.

In conclusion, The Eighth Edition AJCC Cancer Staging Manual brings together all the currently available knowledge on staging of cancer at various anatomic sites. Evidence-based TNM staging is supplemented, as appropriate, by selected molecular markers and newly acquired insights into the molecular underpinnings of cancer. This edition features 12 entirely new staging systems, a wide range of changed or new staging definitions, and a refined emphasis on a personalized-medicine approach.

References

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