Review article

TNM and Japanese staging systems for gastric cancer: how do they coexist?

MAZIN E. SAYEGH¹, TAKESHI SANO², SIMON DEXTER³, HITOSHI KATAI², TAKEO FUKAGAWA², and MITSURU SASAKO²

¹Department of Surgery, Worthing and Southlands Hospitals, West Sussex, UK

²Gastric Surgery Division, National Cancer Center Hospital, 5-1-1 Tsukiji, Chuo-ku, Tokyo 104-0045, Japan

³Department of Surgery, Leeds General Infirmary, Leeds, UK

Abstract

Two staging systems for gastric cancer, International Union Against Cancer (UICC)/TNM and the Japanese classification, have been used widely for clinical practice and research. The two systems started independently in the 1960s, and underwent several revisions and amendments in order to approach each other, but have become more divergent in the latest editions because of characteristics based on different philosophies. The TNM system adopted a number-based system for N-staging that provides easy and accurate prognostic stratification. Comparative studies have shown that the TNM system has greater prognostic power than the Japanese classification. It contains, however, no treatment guidance and should primarily be used as a guide to prognosis. In contrast, the Japanese classification has been designed as a comprehensive guide to treatment, originally for surgeons and pathologists, and today for oncologists and endoscopists as well. Its anatomical-based N-staging was established based on analysis of lymphadenectomy effectiveness, and naturally provides direct surgical guidance. Clinicians should understand the roles of each system and must not mix the systems or terminology when they report their study results.

Key words Stomach neoplasms · Classification · TNM · Japanese classification · Stage

Introduction

Gastric cancer is the world's second commonest cancer, superseded only by lung cancer in this undesirable world ranking. While the incidence of gastric cancer continues to decline steadily in the West, it is still the commonest malignancy in Japan. However, the chance of cure from the disease remains highest in Japan, where there has been a steady improvement in survival rate over the past three decades. Much of this is due to

increased diagnosis of early gastric cancer, which accounts for half of all cases, as well as more radical intervention for advanced disease. By contrast, the majority of the cases in the West present late with advanced disease, and there has not been a significant improvement in the overall survival, despite improvements in surgical technique.

Narrowing the gap between Western and Japanese outcomes will probably require changes at many levels. However, attempts to compare gastric cancer outcomes have been hampered by differences in both the philosophy and practicality of staging the disease in Japan and the West [1].

The two main staging systems for gastric cancer are the TNM staging system of the International Union Against Cancer (UICC), and the Japanese Classification of Gastric Carcinoma by the Japanese Gastric Cancer Association (JGCA). Similarities between these two staging systems exist; namely, that staging is dependent on the extent of the primary tumor, the extent of lymph node involvement, and the presence or absence of distant metastasis. However, there still remain fundamental differences between the two staging systems. The most recognizable difference lies with the classification of regional lymph node spread. The UICC/TNM staging system divides N stage on the basis of the number of metastatic lymph nodes, while the Japanese classification stresses the location of involved nodes.

Staging has a variety of functions, which should be reflected in the staging systems used. In addition to providing an indication of prognosis, staging should ideally be able to provide a framework for treatment decisions, and should allow for evaluation of treatment with meaningful comparisons between different treatments or the same treatment modalities by different groups.

The purpose of this review is to outline the philosophy, background, and major features of the current staging systems and to assess their suitability to serve the above functions.

Two main classifications

The current main classification systems for gastric cancer are the sixth edition of the UICC/TNM classification (2002) [2] and the thirteenth edition of the *Japanese classification of gastric carcinoma* (second English edition [3] (1998), downloadable from <http://www.jgca.jp/PDFfiles/JCGC-2E.PDF>), herein referred to as the JGCA classification. Other systems have been proposed, which will be discussed briefly later in the text.

UICC/TNM classification

In 1954, the UICC appointed a Committee on Tumor Nomenclature and Statistics, which subsequently agreed on a technique for classification of cancer according to the anatomical extent of the disease. Gastric cancer was first included in the TNM staging system in 1966. There have been relatively few revisions to the UICC classification, which is now still only in its sixth edition.

The UICC/TNM system was originally a purely clinical classification, so that a disease stage could be decided before any treatment. In gastric cancer, however, surgical findings were indispensable for classification, because the principal prognostic factors were diagnosed only after surgical exploration. The American Joint Committee on Cancer Staging and End Results Reporting (AJCC) was organized in 1959 to develop a staging system acceptable to the American medical profession, basically using the UICC/TNM format. In 1970, the AJCC published a TNM-based staging system, using clinical, surgical, and histological information [4]. The background database was from 1241 patients with gastric cancer, which had been analyzed by a task force from seven American institutions. The system used penetration of stomach wall (T), proximity to the primary cancer of metastatic perigastric lymph nodes (N), and presence or absence of distant metastases (M), including nodes not in the perigastric area, as these criteria had the greatest impact on outcome in the above cohort.

The third edition of the UICC/TNM in 1978 contained a unified classification with the AJCC. The T stage was defined by stomach-wall invasion, but the “clinical T” and “pathological T” had different definitions. The N stage was defined by anatomic location of nodes from N0 to N3. N1 nodes were defined as metastatic perigastric nodes within 3 cm of the primary, and N2 nodes were nodes beyond 3 cm from the primary, or along the celiac, splenic, left gastric, or hepatic arteries. N3 nodes were paraaortic and hepatoduodenal nodes. In the fourth of the TNM classification edition (1987), T stage was unified to the style of the current edition, and

Table 1. TNM classification, 4th edition; 1987

		M0			M1
		N0	N1	N2	
M0	T1	IA	IB	II	IV
	T2	IB	II	IIIA	
	T3	II	IIIA	IIIB	
	T4	IIIA	IIIB		
M1					

N1, perigastric nodes within 3 cm of the primary tumor; N2, nodes beyond 3 cm from the primary, or along the celiac, splenic, left gastric or hepatic arteries

Table 2. TNM classification, 5th edition; 1997

		M0				M1
		N0	N1	N2	N3	
M0	T1	IA	IB	II	IV	
	T2	IB	II	IIIA		
	T3	II	IIIA	IIIB		
	T4	IIIA				
M1						

N1, 1–6 involved nodes; N2, 7–15 involved nodes; N3, >15 nodes

the N3 category was dropped and reclassified as M1 (Table 1).

The fifth edition (1997) of the TNM classification contains several amendments from the previous edition. The greatest change was that, whereas previously N status was determined by the anatomical site of involved lymph nodes, in the new classification, N stage is determined by the number of metastatic lymph nodes from a minimum yield of 15 lymph nodes in total (N1, 1–6 involved nodes; N2, 7–15 involved nodes; and N3, >15 nodes; Table 2). This had been explored as an option for some time and a proposal to add the number of involved lymph nodes to the anatomical-based N stage was published by the UICC in 1993 [5]. The idea of adopting a number-based N-staging for gastric cancer had also been proposed by some Japanese surgeons [6,7]. Data from a German multicenter gastric cancer study showed the effectiveness of the new proposal in providing better prognostic stratification than previous systems [8].

The new classification was developed, with four N categories (N0 to N3) instead of three as was initially proposed, and was presented in Seoul, Korea, at the 12th International Seminar of the WHO Collaborating Centre for Gastric Cancer in 1996 [9].

In addition to the change in N status, hepatoduodenal nodes are now once again regarded as regional nodal metastases rather than distant metastases, and the stage grouping has been altered, with all N3 patients now classified as stage IV (Table 2). T4N1 disease has also been changed to stage IV, having previously been classified as stage IIIB in 1987.

The latest edition of the TNM classification (sixth edition; 2002) amends pT2 into the subgroups pT2a and pT2b, which represent invasion confined to the muscularis propria and subserosa, respectively. This equates to T2 MP and T2 SS in the JGCA classification.

Japanese classification

The first edition of the General Rules for Gastric Cancer Study was published by the Japanese Research Society for Gastric Cancer in 1962. Stage groups were defined by the extent of serosal involvement (S stage), the location of involved lymph nodes depending on the site of the primary tumor (N stage), and the extent and sites of distant metastases (M, H, and P stages for distant metastasis, and hepatic and peritoneal disease, respectively). In its twelfth edition, the General Rules

changed from the S-stage to a T-stage system, which was equivalent to the T-staging of the UICC system.

The JGCA classification gives a number to all of the regional lymph node stations (Fig. 1), which are classified into three tiers according to the location of the primary tumor. Radical lymphadenectomy in gastric cancer surgery has long been commonplace in Japan and large databases of the incidence and sites of lymph node involvement exist, depending on the site of the tumor and its T stage. The purpose of the meticulous lymph node classification in the General Rules was therefore to guide surgeons to decide the extent and location of lymphadenectomy, so that any potentially involved nodes could be removed according to the site and depth of penetration of the primary gastric cancer.

Lymph node staging was characterized on the basis that gastric cancer metastasizes to groups of lymph nodes arranged radially around the stomach in tiers. The nomination of different lymph node groups to their respective tier was based upon the results of anatomical and physiological studies on lymph flow with different tumor sites.

Various amendments to the original classification followed, and the most recent classification is aimed at surgeons, pathologists, oncologists, and endoscopists who carry out endoscopic mucosal resection (EMR).

English versions were published in the *Japanese Journal of Surgery* in 1973 [10] and 1981 [11] and were referred to in Western studies. However, they were only a digest and could not fully convey the concept or details of the General Rules. The first comprehensive English edition was published in 1995 [12], based on the twelfth Japanese edition, and was named *Japanese classification of gastric carcinoma* (Table 3). The second English edition was based on the thirteenth Japanese edition, and was published in *Gastric Cancer* in 1998 [3].

There were a variety of changes in the most recent edition of the JGCA classification [13], such as rules for EMR and for staging carcinoma of the remnant stomach, and peritoneal cytology has been included in staging.

The most important changes in the current edition from a surgical point of view are the revision of lymph node staging and the consequent limitation of dissection level. Lymph node groups were reallocated from four tiers (N1 to N4) to three tiers (N1 to N3) on the basis of a detailed study of the effectiveness of dissection of different lymph node stations for tumors in the various locations within the stomach. Some lymph node groups, even some perigastric nodes for specific tumor locations, are no longer regarded as regional nodes if involved, but are regarded as sites of distant metastasis (M). This follows because their involvement is rare, and if it occurs, it invariably reflects a very bad prognosis [14]. One example would be the involvement of no. 2

Fig. 1. Lymph node station numbers (circled) in the Japanese classification of gastric carcinoma [3]. These stations are further classified into N1/N2/N3 according to the location of the primary tumor

Table 3. Japanese classification, 12th edition; 1993 (1st English edition; 1995 [12])

		P0, H0, M0				P0, H1, N0-2
		N0	N1	N2	N3	
P0 H0 M0	T1	Ia	Ib	II	IIIa	IVa
	T2	Ib	II	IIIa	IIIb	
	T3	II	IIIa	IIIb	IVa	
	T4	IIIa	IIIb	IVa	IVb (N4, P2,3, H2,3, M1, etc)	
P1, H0, T1-3		IVa				

(left paracardial) nodes in the case of antral tumors. Other node groups, such as 14v (nodes along the superior mesenteric vein) and 12a (along the proper hepatic artery) are common sites of nodal metastasis for lower gastric tumors, and their dissection, even when positive, is often associated with survival. These groups have thus been brought into the N2 tier from the previous N3 tier. As a consequence, the D2 dissection, including all N2 node stations, is more radical than was previously the case, and is better targeted to actual rather than theoretical patterns of spread. D2 dissection can now be applied as standard surgical treatment for advanced gastric cancer. D3 dissection should be regarded as investigational treatment and is not standard. Following the revision of the N staging, there is no longer a category of “D4” dissection. The effect of the changes on stage grouping is that all N3 disease is regarded as stage IV, which is now no longer substratified.

There was a striking resemblance in the staging tables between the second English edition of the JGCA classification (Table 4) and the fifth edition of the TNM classification (Table 2), with the only difference being for the assignment of T4N1 disease, although the definition of N is totally different, as mentioned.

Evaluation and comparison

Similarities and contrasts between staging systems

Unification of staging systems or the concepts of staging is desirable and dialogue between Japanese and Western groups has resulted in alterations in both staging systems to take account of their different approaches.

In 1978, the UICC refined the anatomical-based N grouping into two tiers to reflect radial nodal spread, in keeping with the Japanese principles. N1 involvement was confined to perigastric nodes close to the primary,

Table 4. Japanese classification, 13th edition; 1999 (2nd English edition; 1998 [3])

		M0				M1
		N0	N1	N2	N3	
M0	T1	IA	IB	II		IV
	T2	IB	II	IIIA		
	T3	II	IIIA	IIIB		
	T4	IIIA	IIIB			
H1, P1, CY1, M1						

and N2 nodes referred to those along the hepatic, left gastric, splenic, or celiac arteries, as well as more distant perigastric nodes. This allowed some comparison between Japanese and UICC classifications, as N1 and N2 nodes corresponded to some extent across the two systems, although the anatomical details differed considerably.

The recent change of TNM staging to a number-based node status was a major turnaround that might separate irreversibly the two classifications, which had been converging. However, as far as prognosis is concerned, it has made direct comparison between Western and Japanese patients much easier, as the same data are available for both sets of patients. Now the clinical data recorded by the JGCA system can be exactly translated to the TNM system. The opposite is totally impossible, because the number-based system is a post-hoc pathological staging and bears no relationship to patterns of lymph node spread.

By contrast with the JGCA classification, which provides comprehensive and meticulous guidance to clinicians, the TNM classification is a simple staging system. There is little guidance on management, except that a minimum of 15 lymph nodes is recommended for accurate staging. The stage stratification from the TNM system is simple to apply and gives good prognostic information, but the use of lymph node number alone means that, without supplementary information, stage-dependent management cannot be practiced before final histology is available, as it is impossible to assess the exact number of positive lymph nodes radiologically or even surgically.

Differences in surgical philosophy between Japan and the West

It was Moynihan [15] who said that “Surgery of malignant disease is not the surgery of organs; it is the

anatomy of the lymphatic system". This is undoubtedly a basic principle of Japanese surgical practice. The commonest site of metastasis for gastric cancer is to lymph nodes. Japanese surgeons believe lymph node metastasis is orderly and progresses through the tiers of nodes in a stepwise manner. By defining the lymph node groups in each tier, the surgeon can remove all nodes to the level above that in which positive nodes are apparent or likely, on the basis of preoperative and intraoperative staging.

The JGCA classification is much more than a simple staging system, as it outlines a whole approach to gastric cancer. Rules are defined for diagnosis, surgical procedures, histology, and staging, as well as details of how to prepare the surgical specimen and lymph nodes. The JGCA classification details which node groups to remove depending on the site of the tumor and the level of dissection required. Stage grouping for prognosis naturally uses the same nodal tier basis for N-stage stratification, as it reflects both the spread of the disease and its treatment strategy.

On the other hand, the focus in Western surgical philosophy has been that prognosis is determined to a great extent by the biology of the primary tumor, and that lymph node metastasis is a marker of tumor dissemination [16]. Extended clearance of lymph nodes, unless obviously involved, is perceived to incur excessive morbidity with doubtful survival advantage. Thus, the TNM system places emphasis on prognostic staging and provides little treatment guidance.

Nevertheless, some European surgical groups consider the extended lymphadenectomy as an effective local tumor control and continue to employ D2 dissection and Japanese style N-staging [17].

Prognostic value

Japanese versus TNM classification. Since the introduction of number-based nodal staging in the UICC/TNM system, several Japanese authors have been able to compare prognosis by Japanese and TNM staging in the same patients.

In a study by Fujii et al. [18], 1489 patients were classified retrospectively according to the two classifications. They found that the survival curves in relation to the nodal staging of the two classifications were more or less similar, in that a decrease in survival was associated with an increase in the nodal classification. However, there was more homogeneity in the TNM stage groups than with the JGCA: when the patients with "n1" metastasis by the JGCA system were subdivided according to the TNM number-based system, there were significant differences in survival between "n1/pN1" and "n1/pN2". The same was true for JGCA "n2" patients classified as pN1 or pN2 by TNM stage. However, there

was no difference in survival when each of TNM pN1 and pN2 groupings was subdivided into JGCA "n1" and "n2", i.e., patients with "pN1/n1" or "pN1/n2" shared similar survival curves, as did those with "pN2/n1" and "pN2/n2". This suggests that the prognostic impact of TNM pN stage is superior to that of JGCA "n" staging.

Ichikura et al. [19], Hayashi et al. [20] and Ichikawa et al. [21] also published their results from patients who underwent clinically curative gastric resection, using the JGCA and the fifth TNM classifications. All three groups of authors concluded that the TNM classification for lymph node involvement was superior to the JGCA classification in terms of homogeneity and prognostic value.

Similar conclusions were drawn by Kodera et al. [22], and they found that, even when lymphadenectomy was limited to perigastric lymph nodes, as in a standard Western style D1 resection, there was a difference in survival between pN1 and pN2, which supports the use of the new TNM classification.

In summary, therefore, the number-based N staging has greater prognostic power than the anatomical-based system.

Old TNM (1987) versus new TNM (1997) classification. Direct comparisons of the old and new TNM systems have been published by a variety of authors. Katai et al. [23] analyzed the results of 4362 patients who underwent resection for gastric cancer and found that the new system provided better prognostic stratification than the old system. However, patients classified as "pT4N1" in the new system fared better than other patients in stage IV and would have been better classified as stage IIIB.

Karpeh et al. [24] looked at the old and new AJCC/TNM classifications in 1038 patients, the majority of whom had undergone extended lymph node dissection; they also concluded that node numbers provided more homogeneous survival curves and better prediction of outcome than sites of metastases as defined by the 1987 AJCC/TNM criteria. These authors also strongly countenanced the minimum requirement of 15 nodes to limit stage migration.

Kranenbarg et al. [25] evaluated the old and new TNM classifications for their practicality and prognostic value, using the data of 1078 patients from the Dutch Gastric Cancer Trial. They found that the new (1997) TNM classification gave better prognostic stratification than the old (1987) classification.

The above studies differed from the conclusion reached by Mendes-de-Almeida et al. [26], who found the new TNM classification not very effective in improving the prognostic stratification of lymph node involvement when compared with the old TNM classification. A similar conclusion was drawn by de Manzoni et al.

[27], who concluded that both the site and the number of positive lymph nodes were independent prognostic factors in gastric cancer. Lee et al. [28] did not find superiority of the new classification, and questioned the validity of the current cutoff point for N-staging.

Practicalities of the classifications

Pre- and intraoperative staging. The TNM staging system was originally designed to help plan management before any treatment, and it is often applied in a preintervention setting, but offers little descriptive information on gastric cancer. Treatment planning often relies on supplementary information, in addition to the TNM or stage descriptor.

The recent change in TNM nodal staging further limits the ability to accurately stage patients before treatment. It is true that, in any case, the preoperative assessment of regional lymph nodes in gastric cancer using radiological imaging methods has a low accuracy rate, but counting involved lymph nodes radiologically is impossible, whereas identification of the sites of abnormal nodes is included within standard radiological reporting. Because neoadjuvant chemotherapy is attracting increasing interest today, the importance of pretreatment staging inevitably increases. The N-staging of the current TNM system does not function in this regard, and some modification might be required in the future.

The intraoperative findings during surgery may include macroscopic laparotomy findings, frozen section examination, cytology results, and the macroscopic findings of the resected specimen. Within the JGCA classification, there is clear guidance on the relevance of metastatic disease in the peritoneal cavity or any of the relevant lymph node groups, enabling surgical strategy to be decided on the basis of knowledge of the likely oncological outcome of the patient. While all the same information is available to the Western surgeon, TNM staging has little to offer in regard to strategy, unless frank, previously unrecognized metastases are found.

One example is positive peritoneal cytology, which represents stage IV disease by the current JGCA classification and is equivalent to distant metastasis in terms of prognosis. A positive finding will render a procedure palliative [29,30], and should restrict the need to pursue a radical resection.

Peritoneal cytology is not represented in the current TNM classification, and requires additional annotation if it is to be included in trials or treatment protocols.

Lymph node retrieval. The processing of lymph nodes is detailed and time-consuming with the Japanese system [31], and has been criticized for being complicated and

unnecessarily labor-intensive, as it is performed by the surgical team. By contrast, in the West, the pathologist is in charge of the resected specimen, is often unaware of the precise location of the relevant lymph nodes, and is unlikely to be able to allocate each lymph node to its corresponding site and tier following an en-bloc resection. Now the number-based system can be easily applied in the West.

The TNM classification stated, in the fifth edition that, for pN0, “histological examination of a regional lymphadenectomy specimen will ordinarily include 15 or more lymph nodes”. While many authors have supported the validity of the minimal number of 15 for staging [32,33], some surgeons have suggested that it could be reduced without influencing the prognostic analysis, thereby considerably reducing “unclassified (pNX)” cases. Kranenbarg et al. [25] suggested that a minimum of 5 consecutive negative nodes would suffice to stage gastric cancer as pN0, based on the data from the Dutch D1/D2 trial. Ichikura et al. [34] found that the survival rate for patients with 10 to 14 negative nodes was as good as the rate for those with 15 or more negative nodes, and suggested that the minimum number to be examined for pN0 could be reduced to 10.

In the latest edition of the TNM classification, the following sentence has been added to the pN0 definition: “If the lymph nodes are negative, but the number ordinarily examined is not met, classify as pN0”. This appears to mean that the figure of 15 is a recommendation, but no longer a requirement, for pN0 staging.

In node-positive patients, the current TNM classification may cause serious problems of underestimation. For example, if 6 lymph nodes only were retrieved, and all were positive for cancer cells, the staging would be assigned as pN1 in this system. It is highly likely that such a patient would have had further positive nodes that had been dissected, but not retrieved, and thus could have been staged as pN2 or pN3 if 16 or more nodes had been retrieved. This is not an unlikely situation in Western general hospitals; Mullaney et al. [35] assessed the number of lymph nodes documented for surgically managed patient in the West Midlands, United Kingdom, and found that only 31% of surgically resected patients could be staged with at least 15 nodes.

Furthermore, some authors have even suggested that 15 nodes may not be sufficient for accurate staging of metastatic nodes. Lee et al. [36] reported a retrospective analysis of 4789 patients with gastric cancer and suggested that, for advanced disease and in particular for stage IIIB, more than 15 nodes may be required for optimal staging. They indicated that, with a smaller number of nodes examined, there is a high possibility of underestimation and stage migration.

Ichikura et al. [34] emphasized that, though the mini-

imum number for pN0 could be reduced from 15 to 10, accurate staging of pN1 and pN2 requires the examination of 20 or more nodes, because the number of metastatic nodes was significantly correlated with the number of examined nodes.

Stage migration. The issue of stage migration, or the “Will Rogers phenomenon” [37], is frequently cited as a potential cause of differences in outcome between Japanese and Western patients [1]. Japanese patients undergo D2 dissection as the standard treatment, and, because more nodes are harvested, they are more likely to have positive nodes picked up compared to D0/D1 gastrectomy. The same patients in an extended lymphadenectomy series will thus be allocated a worse prognostic stage than their counterparts who had a D0/D1 gastrectomy. This will improve the survival data for all stages, purely by reallocation of patients with lymph node metastases into higher stages [38].

The introduction of the number-based N-staging may reduce stage migration among the groups with different extents of lymphadenectomy [39], if the resected nodes are fully retrieved. However, enthusiasm for nodal retrieval rather than extent of lymphadenectomy may directly influence the N-staging in this system.

Japanese surgeons usually retrieve as many lymph nodes as possible, because the nodes are literally their “harvest” of cancer surgery, while Western pathologists would be reluctant to retrieve more than the minimum requisite. The only means to prevent or minimize stage migration in the number-based system is to keep nodal retrieval at a high level (e.g., at least 15). Now that the minimum requisite of 15 is practically abolished in the sixth TNM edition, underestimation and consequent stage migration may further enlarge the apparent differences in treatment results between Japan and the West.

Other Classifications

Numerous classifications have been proposed by individual groups after sub-analysis of their own data. Most are adaptations of either anatomical or numerical systems of N-staging, as in the two major classifications.

Adachi et al. [40] and Whiting et al. [41] both employ anatomical nodal staging, with junctional nodes between conventional N1 and N2 tiers. Whiting et al. [41] suggested that junctional nodes could be assessed during surgery to decide whether or not to proceed to D2 dissection, if these nodes were involved. The rationale is based on the apparently high morbidity of D2 dissection in Western series, and they suggested that D2 dissection should be avoided if possible.

Kato et al. [42] address the issue of limited nodal

dissection and describe the predictive value of the number of metastatic nodes in the Japanese (old and new classifications) “n1” perigastric stations. They found their system to have higher sensitivity, specificity, and accuracy than the TNM system or the Japanese system.

Finally, Yu et al. [43] have proposed a frequency system, based on the ratio of metastatic to dissected regional lymph nodes (more or less than 25% involved). Such a system weights against limited nodal dissection, and is a relevant approach, assuming extended lymphadenectomy has an independent survival impact.

Conclusion

Despite repeated comparisons between Japanese and Western staging systems, the systems do not, and were not designed to, fulfill the same role. The JGCA classification is a comprehensive guide to the anatomical-based treatment of gastric cancer and its regional metastases. The staging system within the JGCA classification is highly detailed and anatomically based, and it is inseparable from the guidance on surgical treatment, which is its primary focus.

The TNM system is primarily used as a guide to prognosis. It contains no treatment guidance and has recently changed to a number-based N stage, which most accurately reflects metastatic burden and, hence, prognosis. It provides a simple and reliable means of comparison of outcome between series. In Western practice, importance is placed on both surgeon and pathologist to ensure a nodal yield of at least 15 nodes. The value of the number-based nodal system for comparison will be lost if node yields are low, as a consequence of stage migration, and comparison between patients classified by the TNM and Japanese systems will remain inadequate, as the Japanese approach of D2 dissection and specimen preparation invariably results in greater node yields.

As the two systems are different in principle, it is important that clinicians involved in the treatment of gastric cancer understand the roles of each system. Surgeons using the Japanese system are able to report results by both the Japanese and the TNM staging, which will help comparisons of outcome. However, the two systems are not interchangeable, and the systems and their terminology should not be mixed if clarity is to be maintained.

Alternative staging systems continue to be proposed. Most adapt either anatomical or number-based systems, confirming the independent value of each approach.

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