COMPARISON OF SURVIVAL RATES MADE BY THE 6TH AND 7TH EDITIONS OF TNM CLASSIFICATION IN STOMACH CANCER PATIENTS

[1]Kirkilevsky S. I.,
[1,2,3]Mashukov A. A.,
[2,4]Tkachenko O. I.,
[3]Luk`yanchuk O. V.,
[4]Maximovsky V. E.,
[3]Bilenko A. A.,
[2,3]Merlich S. V.,
[3]Ratsiborsky D. V.,
[3]Boychenko A. I.

[1]Ukraine, Kiev, National Institute of Cancer, Research Department of tumors of the chest cavity;
[2]Ukraine, Odessa, Odessa National Medical University;
[3]Ukraine, Odessa, KU "Odessa Regional Oncology Center", Department of abdominal oncology;
[4]Ukraine, Odessa, Odessa National Medical University, Center of Reconstructive and Plastic Surgery

Abstract. *The available classifications of malignant tumors reflect various aspects of their growth and some biological features. The most commonly used in Ukraine is the 6th revision of TNM classification, which differs from the previous classifications of the section "Gastric cancer", mainly staging of category N, reflecting the presence of metastases in regional lymph nodes. Transition to the 7th classification of TNM translates a part of patients from one stage to another, there is a so-called "stage migration" phenomenon. The famous mathematical phenomenon of Will Rogers describes this transition and theoretically substantiates its objectivity. The authors tracked the migration of patients and the change in the stage mainly from the point of view of the effect of this event on the survival of patients with stomach cancer.*

Keywords: *stomach cancer, TNM classification, stage migration, Will Rogers phenomenon.*

Introduction. In medical literature 4 common directions of lymphogenic cancer dissemination are distinguished (Melnikov A.V., 1960), each of those has also for 4 steps of development:

1st direction - the outflow of lymph takes place from greater curvature of pyloric part, and its front and back walls. Steps: a) gastrocolic ligament; b) retropyloric lymph nodes; c) mesentery of initial part of small bowel; d) paraaortal lymph nodes;

2nd direction is the outflow of lymphatic liquid from lesser curvature of pyloric part of stomach and close front and back walls. Stages: on lesser curvature - a) throughout right gastric artery - b) hepato-duodenal ligament; c) hillus of liver - d) lymph nodes, directly into a liver`s hillus;

3rd direction includes outflow of lymph from the body of stomach, cardiac part of minor curvature, medial part of stomach. Stages: a) omentum minor - b) gastro-pancreatic ligament - c) extraperitoneal upper pancreatic and paraaortal lymph nodes - d) mediastinum and periesophageal lymph nodes above diaphragm;

4th direction includes outflow of lymph from the vertical part of greater curvature, its front and back walls, considerable part of stomach fundal part. Stages: a) gastro-colic ligament - b) gastro-lienal ligament - c) gate of spleen - d) spleen.

Existence of the phenomenon of "jumping" stomach cancer metastases is well-proven by many researchers [1,2] and does the biopsy of sentinel lymph node ineffective. Therefore the first place takes not the sentinel lymphatic node identification but implementation of prophylactic biopsy as possible wide amount of near-by lymphatic nodes, prophylactic lymphatic dissection.

It is, therefore, considered that removal less than 16 lymph nodes provides incorrect staging. Adequate staging might be improper even in the case of proper dissection (D2), by reason of mathematical law – Will Rodger's phenomenon [1,2], that in the appliance to the stomach cancer means the presence of "springing" or "jumping" over one of the stages regional metastases.

Interestingly, that initially the phenomenon of Will Rodger's had no attitude toward migration of the stage and to medicine in general, and touched a seeming paradox (focus), consisting in that transferring (numeral) of element from one great number in other can increase the mean value of both great numbers.

For the best illustration of this widespread phenomenon we will consider two great numbers, X and Y:

$$X = \{1, 2, 3, 4\},$$
$$Y = \{5, 6, 7, 8, 9\}.$$

Arithmetic sum of elements of X is equal to elements of Y = 7.
However, if number 5 to transfer from X in Y, getting

$$X = \{1, 2, 3, 4, \mathbf{5}\},$$
$$Y = \{6, 7, 8, 9\},$$

the calculation that mean value of elements of X will rise to 3, and mean value of elements of Y - to 7,5.

Because these people are not healthy, removing them from the set of healthy people increases the average lifespan of the healthy group. Likewise, the migrated people are healthier than the people already in the unhealthy set, so adding them raises the average lifespan of that group as well. Both lifespans are statistically lengthened, even if early detection of a cancer does not lead to better treatment: because it is detected earlier, more time is lived in the "unhealthy" set of people. Adding of them to the great number promotes the middle index of health [1]. Classification of the same group of oncologic patients simultaneously according 6th and 7th variants of revision of classification of TNM appropriately will cause the outflow of part of patients from one stage into other. And that, in turn, is able to change the indexes of survivability the same, it would seem, groups of patients.

Fig. 1. Will Rodger has an authorship of so well-known in biology phenomenon

N1 in the 6th edition means 16 regional lymph nodes involvement, while the N1 seventh edition – only 1-2 of regional lymph nodes involvement. This means that T1N1Mo \ 6th and T1N1Mo \ 7th - not quite the same, and the survival of the two groups will be different. This group of patients previously classified as now will be in a different stage of the disease and thus shifts the statistics of the stage. These are the "Okies" of Will Roger who moved from Oklahoma to California:

$$N1 \setminus 6^{th}\, edition :\rightarrow \begin{cases} N1 \setminus 7^{th}\, edition \\ N2 \setminus 7^{th}\, edition \end{cases}$$

Thus, summing up the results of a point, we can say that studying phenomenon exists as if in three dimensions, three senses. In the conventional sense it means those jumping, biologically aggressive "penetrating" metastases. In a wider sense - it transfers patients from one to another stage of the classification while changing the method of describtion. And here and there "okies" Will Roger moved from Oklahoma to California, and vice versa.

Firstly, it is certainly a great example of how imperfect staging system for cancer in general, and particularly for stomach cancer. "Jumping" (better translated "skipping") lymphotropic metastasis, leading to heterogeneous description of the criteria N, and therefore does not fulfill adequate volume of lymph node dissection and further therapy. Although who is #1 in this case - the chicken or the egg - inadequate staging or a selected volume of lymphatic dissection?

Secondly, the very trick of W. Roger, of course, is contrary to the experience of the observer. Since the transfer of at least one number from one group to another leads to a change in all group`s calculations. It increases the numeric value of the average of both sets, which means a change of the standard deviation or median survival.

Finally, in the third. This phenomenon shows the importance of the proper distribution of values in the group (i.e. stratification). Because each subsequent new (5th, 6th, 7th, 8th expect) TNM classification attempts to stratify gastric cancer patients very differently. Compare staged according to the different understanding of the TNM classification in the meta-analyzes can be carried out incorrectly.

Sir Robert Maldon, one of the historically known Prime Minister of New Zealand, is famous for the phrase "New Zealanders are immigrating to Australia, increase the IQ of both countries." The migration of patients to another stage when a classification system has been changed is a really existing event; particularly Daniele Marrelli called it "shift" stage [4].

Talking about the phenomenon of migration of patients from stage to stage at different classification of the same group, we should make a literary reference.

In our study, the migration of subgroups of patients with gastric cancer from one stage to another, due to the change of the descriptive system of staging, led to a decrease in the risk of death by 17 % for the second stage and 55 % - for the third. Compare life expectancy of patients with gastric cancer in groups T4aN3aM0 (described by a former version like T3N2M0) and T4bN3M0 (in 6th - T4N2M0) stages revealed significant differences in survival. Significant differences were respectively p = 0.00146 and p = 0.0137; hazard ratio - 1.12 and 1.11. The difference in median survival was as follows: 22 and 44 months for T4aN3aM0 (VII) ≈ T3N2M0 (VI) and the ligaments 28 and 23 months for T4bN3M0 (VII) ≈ T4N2M0 (VI), respectively. It is concluded that the movement of the subgroups of patients with gastric cancer TNM-from one system to another changed the risk of the event, the death of progression by 12 and 11 %, respectively.

Table 1. Detected shift in survivability of the patients, stratified on the stages in accordance with the requirements of different TNM systems

TNM stages, 6th edition	TNM stages, 7th edition	The range of differences in survival patients with gastric cancer, F test, Fisher's exact test	
		1st randomization group	2nd randomization group
I stage	I stage	Groups appeared minorities	
II stage	IIb stage	**p=0,14>0,05, n=21**	p=0,037<0,05, n=20
	IIa stage	**p=0,054>0,05, n=4**	**p=0,66>0,05, n=5**
IIIa stage	IIIa stage	p=0,019<0,05, n=14	p=0,0071<0,05, n=12
IIIa stage		p=0,002<0,05, n=14	p=0,0056<0,05, n=13
IIIa stage		p=0,00025<0,05, n=6	p=0,0001<0,05, n=12
IIIb stage	IIIb stage	p=0,0001<0,05, n=6	p=0,0001<0,05, n=27
IV stage	IIIc stage	p=0,0001<0,05, n=21	p=0,0001<0,05, n=18
	IIIc stage	p=0,01<0,05, n=21	p=0,0002<0,05, n=18
	IIIc stage	p=0,04<0,05, n=21	p=0,0003<0,05, n=11
	IIIc stage	p=0,0001<0,05, n=10	p=0,0001<0,05, n=10

Various survival of the same subgroup (TNM staging according to different systems) due to the fact that the number of patients in the same subgroup TNM has been varied, i.e. there is a shift or migrate patients from one subgroup to another. It was expected that no any differences between those groups, since it is the same patients. However, different systems of staging offer statistically significant difference in survival. 16 evaluations only three cases marked comparable value of patient survival: T3N1M0 (6th) and T4aN2M0 (7th), T4N1M0 (6th) and T4bN2M0 (7th), and T4N2M0 (6th) and T4bN3M0 (7th) (p > 0,05).

Table 2. Differences in the survival of radical operated patients with gastric cancer, stratified by groups of TNM

TNM stages, 6th edition	TNM stages, 7th edition	The range of differences in survival patients with gastric cancer, F test, Fisher's exact test	
		1st randomization group	2nd randomization group
T2aN1Mo	T2N1Mo T2N2Mo	Groups appeared minorities	
T2bN1Mo	T3N1Mo T3N2Mo	Groups appeared minorities	
T3N1Mo	T4aN1Mo (n=20)	p=0,023<0,05	p=0,00029<0,05
	T4aN2Mo (n=25)	p=0,00239<0,05	**p=0,072>0,05**
T4N1Mo	T4bN1Mo (n=22)	p=0,00468<0,05	p=0,00326<0,05
	T4bN2Mo (n=12)	p=0,0164<0,05	**p=0,0526>0,05**
T2aN2Mo	T2N3Mo	Groups appeared minorities	
T2bN2Mo T2bN3Mo	T3N3Mo	Groups appeared minorities	
T3N2Mo	T4aN3Mo (n=14)	p=0,0147 <0,05	p=0,00018<0,05
T3N3Mo		p=0,0002<0,05	p=0,0002<0,05
T4N2Mo	T4bN3Mo (n=24)	**p=0,063>0,05**	p=0,0137<0,05
T4N3Mo		p=0,00056<0,05	p=0,0001<0,05

Over the past 10 years the oncological and surgical hospitals experienced a transition from 4th to the 5th, then the 6th and the coming 7th edition of the International Classification TNM. Could this fact affect the statistics and indicators of the quality of treatment of patients with gastric cancer? After all, the process took only 10-12 years. Numerous studies in medical literature were established on different

classifying systems with different variables, e.g. the study of patients with gastric cancer on a fourth stage will now correctly be compared now with the 4th only, but also with 3a, 3b, 3c, and even a 2b-th stage.

We offer to the attention some differences between the 7th and 6th edition of classification TNM. The 4th and 5th system of classification are not given here, so as not to clutter up the work.

1. Partition index T1 to T1a and T1b stages.
2. Subdivision T4 phenotype onto T4a and T4b stages.
3. T2a and T2b indexes are now missing, however 2a and 2b stages administered.
4. The numerical values of T and N indices gained new qualitative values, which will be discussed below.
5. The N3 index is now divided onto N3a & N3b.
6. Revision undergone stage 3 and 4: 4th stage now means only the presence of distant metastases; stage #3 is divided onto three stages: 3a, 3b, 3c.
7. Those TNM-combinations previously meant one stage now refer brand new stages:

^{6th}T1 N1 Mo = ^{7th}T1a,b N2 Mo
^{6th}T2a N1 Mo = ^{7th}T2 N2 Mo
^{6th}T2b N1 Mo = ^{7th}T3 N2 Mo, ^{7th}T3N1Mo
^{6th}T3 N1 Mo = ^{7th}T4a N1 Mo, ^{7th}T4a N2 Mo
^{6th}T4 N1 Mo = ^{7th}T4b N2 Mo
^{6th}T1 N2 Mo = ^{7th}T1a,b N3a Mo
^{6th}T2a N2 Mo = ^{7th}T2 N3a Mo
^{6th}T2b N2 Mo = ^{7th}T3 N3a Mo
^{6th}T3 N2 Mo = ^{7th}T4a N3a Mo
^{6th}T4 N2 Mo = ^{7th}T4b N3a Mo
^{6th}T2b N3 Mo = ^{7th}T3 N3b Mo
^{6th}T3 N3 Mo = ^{7th}T4a N3b Mo

Without changes or, more correct to say, almost without changes, remained:

^{6th}Tis No Mo = ^{7th}Tis No Mo
^{6th}T1 No Mo = ^{7th}T1a,b No Mo
^{6th}T1 N1 Mo = ^{7th}T1a,b N1 Mo
^{6th}T1 N3 Mo = ^{7th}T1a,b N3b Mo
^{6th}T2a N1 Mo = ^{7th}T2 N1 Mo
^{6th}T2a N3 Mo = ^{7th}T2 N3b Mo
^{6th}T4 N1 Mo = ^{7th}T4b N1 Mo
^{6th}T4 N3 Mo = ^{7th}T4b N3b Mo

Is it possible, using probability theory, including statistical analysis of the probability of the procedure Cox, predict how often the phenomenon of "skipping" gastric cancer regional metastases escapes the observer, that is, surgeon, pathologist, chemotherapist? Since during surgery for gastric cancer, this phenomenon is not always detected (outermost collectors cannot be excised in all cases). Opportunity is to monitor early loco-regional recurrence. migration of patients from stage to stage at different lymphadenectomy procedures (D1, D2, D3) and the mathematical prediction of "failures" in the survival of patients at different ways of classifying (was used by the 6th and the 7th edition of TNM). The presence of "failure" in survival would indicate the presence of residual (left) collectors, even in the absence of loco-regional recurrence - an evidence of the phenomenon of Will Rogers. The study included patients with no evidence of distant metastases.

Objectives. The objectives of this work were to compare the influence of different types of classification onto patients' survival rate.

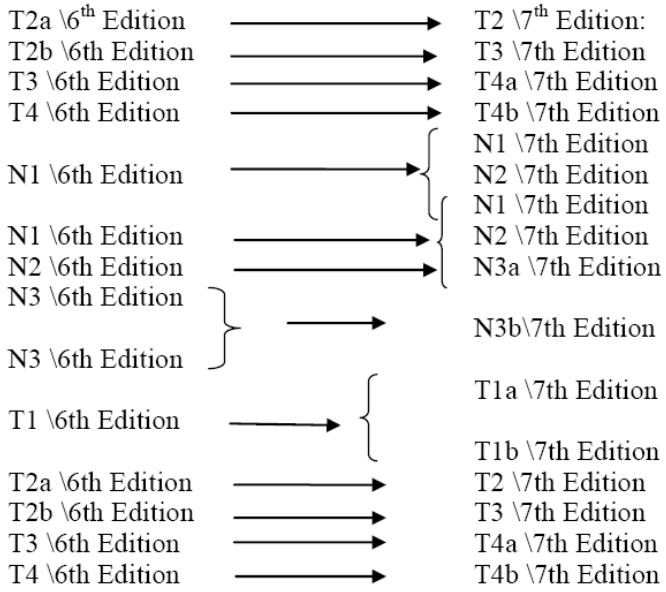
Materials and methods. The study, made on the abdominal oncosurgical department of Odessa Regional Oncology Center, included 188 patients operated for gastric cancer in the period 2007-2011. The study included only radically treated patients. The average age was 60,6 ± 10,5 years, gender content: men - 120, women - 68.

Table 3. Distribution of patients with gastric cancer by the age groups

№	Age	Patients number
1.	30-39	7
2.	40-49	21
3.	50-59	54
4.	60-69	63
5.	70-79	35
6.	80-90	5

Total performed 126 total resection and 62 subtotal gastrectomy. Gastrectomy performed by the method of G.V. Bondar means forming a loop terminolateral coupling-like retrocolic esophago-jejunum anastomose interintestinal with entero-enteroanastomosis by Brown`s method. Distal subtotal resection in most cases finished with the formation retrocolic gastroenteroanastomosis Billroth-2 in Hofmeister-Finsterer modification.

As we have seen from the previous explanation, there is a so-called migration, a transition part of the patients from one stage to another TNM. The existence of such a transition has so far been confirmed only speculative conclusion that what had previously been one step in the following classification will be different. Once again, let me remind yourself some of these examples.



Results. Attention is drawn to the fact how little in the medical literature drawn attention to the possibility of the presence of such a transition. After all, what used to be a stage, after quite simple and clear manipulation becomes another step T, N, M, etc. Survival rates of patients has been changed, occur changings in the ratio of men / women in groups, changing in the average age of the patients in groups, changing in the type of treatment, the patients who were subjected to finally such important descriptive elements, as an average, mode, standard deviation, etc. have been changed.

Table 4. Groups, where changing of classification system yielded statistically significant differences between the patients survival

TNM stages, 6th edition	TNM stages, 7th edition	The range of differences in survival patients with gastric cancer, F test, Fisher's exact test	
		1st randomization group	2nd randomization group
T3N1Mo	T4aN1Mo (n=20)	p=0,023<0,05	p=0,00029<0,05
	T4aN2Mo (n=25)	p=0,00239<0,05	**p=0,072>0,05**
T4N1Mo	T4bN1Mo (n=22)	p=0,00468<0,05	p=0,00326<0,05
	T4bN2Mo (n=12)	p=0,0164<0,05	**p=0,0526>0,05**
T4N2Mo	T4bN3Mo (n=24)	**p=0,063>0,05**	p=0,0137<0,05
T4N3Mo		p=0,00056<0,05	p=0,0001<0,05

Thus, group T3N1Mo 6th reclassification compared with 2 relevant 7th:

T3N1Mo	T4aN1Mo (n=20)
	T4aN2Mo (n=25)

T4aN1Mo 7th (n=20)	p=0,023<0,05	p=0,00029<0,05
T4aN2Mo 7th (n=25)	p=0,00239<0,05	p=0,072>0,05.

As can be seen, regardless of randomization, when transfer from one classification to another occurs, patients had already different survival rate. This means that the so-called "State change" was

everywhere, except in one case: p = 0.072> 0.05. Suchwise phenomenon occurred where T4N1Mo 6th passed comparison with 2 groups of the 7th:

T4N1Mo	T4bN1Mo (n=22)
	T4bN2Mo (n=12)

T4bN1Mo 7th (n=22)	p=0,00468<0,05	p=0,00326<0,05
T4bN2Mo 7th (n=12)	p=0,0164<0,05	p=0,0526>0,05

The same was the case in the other group with 34 patients, where as a result of migration from stage to stage the patient's lifespan changed. Only one of the three calculating comparison showed the absence of change: p = 0.0526> 0.05.

Other groups were relatively small in number for such comparisons, except as shown in the table below.

T3N2Mo	T4aN3Mo (n=14)
T3N3Mo	
T4N2Mo	T4bN3Mo (n=24)
T4N3Mo	

Both T3N2Mo7th and T3N3Mo7th inhere, according to all innovations, now match the another description by the seventh edition: T4aN3Mo.

Recall that the Fisher's exact test F and $\chi 2$ Pearson's chi-squared test can be used to compare the groups with only 2 arms. In this numerical (digital) value in such a table by using chi-square test cannot be less than 5. In the table numerical values were as follows:

T4aN1Mo (n=20)
T4aN2Mo (n=25)
T4bN1Mo (n=22)
T4bN2Mo (n=12)
T4aN3Mo (n=14)
T4bN3Mo (n=24)

Table generalized comparison of survival in patients with gastric cancer graphs 6th revision groups of 7th review, which also has been randomized. Graphics themselves are not shown in the text to simplify the perception of the entire array of information.

Table 5. Group, where another method of staging yielded statistically significant differences between patients with gastric cancer survival stratified by stage

TNM stages, 6th edition	TNM stages, 7th edition	The range of differences in survival patients with gastric cancer, F test, Fisher's exact test	
		1st randomization group	2nd randomization group
I stage	I stage	Groups appeared minorities	
II stage	IIb stage	**p=0,14>0,05, n=21**	p=0,037<0,05, n=20
	IIa stage	**p=0,054>0,05, n=4**	**p=0,66>0,05, n=5**

Another interesting event was the comparison group in the same revision (what medical researchers usually did). The classification mission is to provide differences in the survival rates between the groups. So first, the 6th revision. As far as it is able to divide into groups of patients with gastric cancer was significantly different survival. Going forward, we must say that the second classification of patients in our sample proved to be qualitatively better level.

Thus, a high mathematical precision was able to show that most of the groups of patients created the 6th revision of the classification TNM, statistically different. From our point of view, this is the goal of creating a classification: the creation of a classification system that with its help you can create groups, differing from each other by objective evidence. In this case we observe and analyze the differences in survival between groups. 21 pairs of survival curves were not differences compared 25 pairs of survival curves of RG - ultra-high power differences p <0.01, and in many cases, p <0.001

and p <0.0001. 10 pairs of survival curves were statistically significant differences between them with the power of p <0.05. Charts are not given, so as not to clutter up the story.

Table 6. Reliability of differences between those survival curves, created by 6th Classification

Differences in survival of subgroups according 6th revision of the UICC		
There is differences in survival		There is no differences in survival
p<0,05	p<0,01	p>0,05
T2No → T2N1 p= 0,033	T2No → T2N2, p= 0,0088	T2N2 → T2N1, p= 0,62
T2N2 → T3N2 p= 0,01	T2No → T3N1, p= 0,00029	T2No → T3No, p= 0,1
T3N2 → T3No p= 0,039	T3N1 → T2N1, p= 0,00016	T3No → T2N1, p= 0,66
T3N3 → T4No p= 0,0148	T2N2 → T3N1, p= 0,0005	T3No → T2N2, p= 0,85
T2No → T4N1 p= 0,041	T3No → T3N1, p= 0,0002	T4No → T2N1, p= 0,27
T4N2 → T2No p= 0,028	T2No → T3N2, p= 0,0001	T2N2 → T4No, p= 0,55
T3N2 → T4N2 p= 0,035	T3N2 → T3N1, p= 0,0002	T4No → T3No, p= 0,13
T4N3 → T4N1 p= 0,0199	T2No → T3N3, p= 0,0003	T3N3 → T3N2, p= 0,46
T4N3 → T2N2 p= 0,0125	T3N3 → T2N1, p= 0,0006	T4No → T3N2, p= 0,12
T4N3 → T2N1 p= 0,024	T3N3 → T2N2, p= 0,0002	T4N1 → T4No, p= 0,24
	T3N3 → T3No, p= 0,00015	T3No → T4N1, p= 0,72
	T3N3 → T3N1, p= 0,0001	T2N2 → T4N1, p= 0,86
	T4No → T2No, p= 0,0013	T4N1 → T2N1, p= 0,94
	T4No → T3N1, p= 0,0001	T4N2 → T2N1, p= 0,76
	T3N3 → T4N1, p= 0,00044	T4N2 → T2N2, p= 0,59
	T3N2 → T4N1, p= 0,0092	T4N2 → T3No, p= 0,49
	T4N1 → T3N1, p= 0,0001	T4N2 → T4No, p= 0,48
	T4No → T2No, p= 0,0013	T4N1 → T4N2, p= 0,5
	T2N2 → T3N2, p= 0,0057	T4N3 → T4No, p= 0,35
	T4N2 → T3N1, p= 0,0001	T4N3 → T3N3, p= 0,23
	T4N2 → T3N3, p= 0,0032	T4N3 → T3N2, p= 0,68
	T4No → T2No, p= 0,0013	
	T4N3 → T3N1, p= 0,0001	
	T4N3 → T3No, p= 0,0086	
	T4N3 → T2No, p= 0,0002	

"Step" survival curves between them and the presence of "crossroads" in the calculation did not matter. Calculation was based on D.Cox, not by the log-rank and Kaplan-Meier for which such "descriptive" characteristics are important. For Cox proportional hazards model visualization graphs critical value almost does not matter. Survival curves in real life, may intersect with each other several times.

The next step was to conduct a similar analysis for the 7th TNM classification. What if this same group of patients with gastric cancer, be classified not by the 6th, but now by the 7th revision of the classification. Then to compare how will differ obtained TN-group (Index M is always "0" in this case, since it was only patients with local disease).

To achieve greater purity of this experiment, the patients were stratified randomly into two groups, in which comparisons were made. Here's present what happened.

As you remember, comparing survival rates classified by the 6th edition of the classification of patients managed to obtain three groups. Groups differed in the strength of significant differences in survival in patients with gastric cancer. Groups have 21, 25 and 10 sub-groups in which the survival curves were compared by p-criteria. Thus the power of manufactured classification can be appreciated be the particular criteria: its capacity to demonstrate the survival difference between those groups mathematically.

Table 7. The interaction between stages and the significance of differences in the survival of subgroups TNM classification of gastric cancer patients 7th revision of the UICC

	1st group	2nd group
1	T4aNo → T4aN1 p= 0,23>0,05	T4aNo → T4aN1 p= 0,88>0,05
2	T4aNo → T4bNo p= 0,42>0,05	T4aNo → T4bNo p= 0,75>0,05
3	T4aN1 → T4bNo p= 0,71>0,05	T4aN1 → T4bNo p= 0,87>0,05
4	T4bNo → T4bN1 p= 0,56>0,05	T4bNo → T4bN1 p= 0,72>0,05
5	T4bN1 → T4aN1 p= 0,84>0,05	T4bN1 → T4aN1 p= 0,60>0,05
6	T4bN1 → T4aNo p= 0,31>0,05	T4bN1 → T4aNo p= 0,42>0,05
7	T4aNo → T4aN2 = 0,12>0,05	T4aN2 → T4bN1 p= 0,61>0,05
8	T4aN2 → T4aN1 p= 0,47>0,05	T4aN2 → T4bNo p= 0,36>0,05
9	T4aN2 → T4bNo p= 0,28>0,05	T4aN2 → T4aN1 p= 0,29>0,05
10	T4bN1 → T4aN2 p= 0,64>0,05	T4aN2 → T4aNo p= 0,13>0,05
11	T4bN2 → T4aN2 p= 0,46>0,05	T4bN2 → T4aN2 p= 0,45>0,05
12	T4bN2 → T4bN1 p= 0,74>0,05	T4bN2 → T4bN1 p= 0,19>0,05
13	T4bN2 → T4bNo p= 0,89>0,05	T4bN2 → T4bNo p= 0,99>0,05
14	T4bN2 → T4aN1 p= 0,87>0,05	T4bN2 → T4aN1 p= 0,91>0,05
15	T4bN2 → T4aNo p= 0,61>0,05	T4bN2 → T4aNo p= 0,66>0,05
16	T4aN3 → T4bN2 p= 0,20>0,05	T4aN3 → T4bN2 p= 0,44>0,05
17	T4aN3 → T4aN2 p= 0,21>0,05	T4aN3 → T4aN2 p= 0,87>0,05
18	T4aN3 → T4bN1 p= 0,41>0,05	T4aN3 → T4bN1 p= 0,051>0,05
19	T4aN3 → T4bNo p= 0,73>0,05	T4aN3 → T4bNo p= 0,39>0,05
20	T4aN3 → T4aN1 p= 0,51>0,05	T4aN3 → T4aN1 p= 0,33>0,05
21	T4aN3 → T4aNo p= 0,96>0,05	T4aN3 → T4aNo p= 0,21>0,05
22	T4bN3 → T4aNo p= 0,41>0,05	T4bN3 → T4aNo p= 0,64>0,05
23	T4bN3 → T4aN1 p= 0,89>0,05	T4bN3 → T4aN1 p= 0,89>0,05
24	T4bN3 → T4bNo p= 0,66>0,05	T4bN3 → T4bNo p= 0,66>0,05
25	T4bN3 → T4bN1 p= 0,96>0,05	T4bN3 → T4bN1 p= 0,54>0,05
26	T4bN3 → T4aN2 p= 0,65>0,05	T4bN3 → T4aN2 p= 0,29>0,05
27	T4bN3 → T4bN2 p= 0,59>0,05	T4bN3 → T4bN2 p= 0,93>0,05
28	T4bN3 → T4aN3 p= 0,49>0,05	T4bN3 → T4aN3 p= 0,34>0,05

Unfortunately, this same group of patients classified now on the 7th TNM classification, the differences in survival rates between similar groups-family, we could not fix. This fact is reflected in Table 8. The probability of finding differences between the stratified 7th classification groups was always less than 95 %. But this is not enough for biomedical research.

Present work has only a research interest and in any case not intended to criticism classifications. We hope that in the recruitment process obtain more material to trace brand new, more interesting trends.

REFERENCES

1. Feinstein A R, Sosin D M, Wells C K (June 1985). "The Will Rogers phenomenon. Stage migration and new diagnostic techniques as a source of misleading statistics for survival in cancer". The New England Journal of Medicine 312 (25): 1604–8. doi:10.1056/NEJM198506203122504. PMID 4000199.

2. Sormani, M. P.; Tintorè, M.; Rovaris, M.; Rovira, A.; Vidal, X.; Bruzzi, P.; Filippi, M.; Montalban, X. (2008). "Will Rogers phenomenon in multiple sclerosis". Annals of Neurology 64 (4): 428–433. doi:10.1002/ana.21464. PMID 18688811. Edit

3. The grapes of wrath. John Steinbeck. Herman Finkelstein Collection (Library of Congress). Publisher: New York: The Viking Press, [1939] ©1939.

4. Marrelli D., Morgagni P., de Manzoni G. et al. (2012) Prognostic value of the 7th AJCC/UICC TNM classification of noncardia gastric cancer: analysis of a large series from specialized Western centers. Ann Surg. 255 (3): 486-491.