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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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Содержание:

COMPARATIVE RESULTS OF THE USE OF MODERN EXAMINATION METHODS IN THE EARLY DIAGNOSIS OF KIDNEY CANCER, IN DETERMINING THE STAGE OF INVASION, AND IN CHOOSING STRATEGIES FOR ITS RADICAL TREATMENT

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Abstract.

Aim of study: This article deals with comparative results of the use of modern examination methods in the early diagnosis of kidney cancer, in determining the stage of invasion, and in choosing strategies for its radical treatment.

Material and methods: The research work included 170 patients who were treated in department of urology of Azerbaijan Medical University with the diagnosis of kidney cancer from 2006-2016. The age range of patients was between 23-82 (average 61.7), 93(54.7%) were male and 77 (45.3%) were female. According to the application of radiation examinations, we have divided the patients into two groups who are under our observation. Only ultrasound examination was applied to the patients included in the first group for diagnostic purposes, while modern radiation examinations were applied comprehensively to the patients included in the second group. 63 of the patients included in the first group were satisfied with only the results of the ultrasound examination and the appropriate type of treatment was prescribed without additional examinations. In 107, examinations were applied in a complex manner (USM, CT, MRI).

Results: According to the results of our research, the response of USM to the stages of kidney cancer in determining the stage of process invasion is T1-97.9±1.2%, T2-94.2±2.3%, T3-92.2±2.5% %, T4-98.0±1.1%, and its sensitivity is 89.7±5.7% in T1 stage, 87.9±4.0% in T2 stage, 87.3±4.5% in T3 stage, It was 85.0±8.0.9% for T4 stage. In patients with kidney cancer, the diagnostic possibility of ultrasound examination and determination of the stage of invasion was 90.5% correct and 9.5% incorrect. 90.4% correct in the placement of the tumor, 9.6% incorrect, 86.9% correct in determining the size of the tumor tissue, 13.1% incorrect, 92.6% correct in 7.4% in determining the direction of development intrarenal wrong, extrarenal development is completely consistent. Specificity of computed tomography by stages in determining the degree of local spread of the process in patients with kidney cancer: T1-98.6±1.4%, T2-91.7±4.0%, T3-84.5±4.8%, T4-97.3±1.9% sensitivity and T1-90.9±8.7%, T2-80.6±6.6%, T3-80.8±7.7%, T4-72.7±13 it has been like this.

Conclusions: Our retrospective review revealed that the screenings related to the stage of cancer development were satisfactory and there was no need for additional more complex and expensive screenings. In other patients (T3-T4), conducting preoperative thoracoabdominal CT and MRI examinations was considered important from the point of view of obtaining effective results in order to put an end to the controversial issues arising in the diagnosis and selection of radical treatment.

Key words. kidney cancer, ultrasound, CT, MRI.

Introduction.

The primary diagnosis of kidney cancer, the location of the tumor, the direction of its development, the determination of the stage of invasion, and the choice of radical treatment remain one of the most urgent issues facing uro-oncologists at present [1,2]. Although kidney cancer ranks after prostate cancer among the malignant diseases of the urogenital system, it is ahead of it and takes the first place in terms of death rate [3,4]. One of the main reasons for the high number of deaths from the mentioned pathology and the main reason was the failure of patients to refer to specialized clinics in time, and the wrong choice of radical treatment due to the failure to establish the primary diagnosis in time [3,5]. Because when most patients enter specialized clinics, 18-23% already have micrometastases in separate organs, 20-55% local spread of the process, and serious changes in the kidneys, which makes it difficult to choose the type of radical treatment and leads to not being so encouraging of the postoperative results [6,7]. Nowadays, it is mentioned in many kinds of literature that early diagnosis of kidney cancer and determination of the stage of invasion is possible in 5-10% of cases [8,9]. Most patients are diagnosed 1-3 years after the onset of the first clinical symptoms, at which time certain changes have already occurred in the kidneys and surrounding tissues [9]. This affects the treatment strategies and reduces the importance of effective treatment by 25-30%.

Early diagnosis of kidney cancer, stage of local spread of the primary tumor, selection of surgical treatment strategies, and prevention of minimal complications remains unsolved issues [10,11]. Recently, the rapid development of new diagnostic methods has made it possible to open new horizons in the development of new technologies of radiation examination and the consistent use of the possibilities of these methods [7,12]. Thus, it has been tried to use widely this complex of examinations in this research work, taking into account the wide possibilities of radiation diagnostic examination methods (Ultrasound, CT, MRI) in making an early diagnosis of kidney cancer, determining the stage of invasion, and choosing the type of radical treatment [6,10,13]. By using these examination methods in a separate and complex way, we set ourselves the goal of selecting the type of radical treatment by evaluating not only the factor of detecting the tumor but also the local spread of the process, its size, the direction of development, location, and the presence of regional metastases [10,14].

The aim of the study.

The conducted research work aims to clarify the interaction between the existing methods of examination related to the stages of development of kidney tumors by comparative

analysis and to clarify the order in which significant methods should be applied.

Materials and methods.

The research work included 170 patients who were treated in department of urology of Azerbaijan Medical University with the diagnosis of kidney cancer from 2006-2016. The age range of patients was between 23-82 (average 61.7), 93(54.7%) were male and 77(45.3%) were female. In the conducted research work, it was tried to use modern diagnostic methods separately and comprehensively in the early diagnosis of kidney cancer.

By using these examination methods, we set ourselves the goal of choosing the type of radical treatment by evaluating not only the factor of detecting the tumor in the kidney tissue but also the local spread of the process and the presence of regional metastases. Ultrasound examination in the diagnosis of kidney cancer is considered to be the leading radiological examination method as a comfortable, non-invasive, and economically beneficial examination for patients. This examination has greatly reduced the need for other invasive methods in the early diagnosis of kidney cancer. With the help of ultrasound, it was possible to very easily determine at which pole of kidney tissue the tumor is located, its number, size, direction of development, stage of invasion of the process, and changes in surrounding tissues and regional lymph nodes due to the influence of pathology.

All patients under our observation underwent surgery. Patients were informed about the surgery to be performed in pre-operative preparation according to the general protocol rules and consent was obtained.

An ultrasound examination was applied as a primary routine examination to establish a preliminary diagnosis, determine the stage of invasion and select the appropriate type of radical treatment for these results in all patients under our supervision. According to the application of radiation examinations, we have divided the patients into two groups who are under our observation. Only ultrasound examinations were applied to the patients included in the first group for diagnostic purposes, while modern radiation examinations were applied comprehensively to the patients included in the second group.

63 of the patients included in the first group were satisfied with only the results of the ultrasound examination and the appropriate type of treatment was prescribed without additional examinations. In 107, examinations were applied in a complex manner (USM, CT, MRI). In the first group of patients, the tumor was found in the right kidney in 34 (53.9%) patients, in the left kidney in 29 (46.1%), in the parenchyma in 58 patients, and the pelvis in 5 patients. Upper-17 (right-9, left-8), lower-21 (left-13, right-8), in the middle part - 25 (right-16, left-9) patients, of which 35 had developed upper, 28- and it was confirmed that it developed in the lower part, extrarenal-15, intrarenal-37, mixed-11 patients. The size of the tumor was 2.0-7.0 cm in 21 patients, 7.0-9.5 cm in 18 patients, and 10.0-12,0 cm in 24 patients. T1-21, T1a-11, T1b-10, T2-28, T3-11, T3a-7, T3b-4, T4-3.

It was determined that 59 patients had one and 4 had two tumors. In 27 (15.9±2.8%) of 170 patients, the tumor tissue was in the upper pole of the kidney (17-right, 10-left), in 95 (55.9±3.8%) in the middle pole (51-right, 44-left), located in the lower pole (28-right, 20-left) in 48 (28.2±3.5%).

In our study, the echogenicity and echostructure of the tumor tissue were described in detail based on the ultrasound examination. In 87 (51.2%) of the patients under our observation, the tumor tissue was hypoechoic, 23 (13.5%) was isoechoic, 34 (20.0%) were hypo-hyperechoic, and 26 (15.3%) had a hyperechoic structure. In 17 (10.0%) patients, the tumor was found in the pelvis, and in 153 (90.0%) - in the parenchyma. In total, tumor tissue developed from the right kidney in 96 (56.5%) patients and from the left kidney in 74 (43.5%) patients. Due to the fact that the size of the tumor plays a big role in the choice of the type of operation in patients with kidney cancer, the size of the tumor tissue was precisely determined according to the ultrasound examination before the operation. In most of the patients in our observation, the size of the tumor tissue was within 4-7 cm.

Distant metastases were detected in 3 patients in the lung, in 1 patient in the liver, and in 1 patient in the brain. Metastases were detected based on contrast computed tomography and MRI examinations.

In our research work, the minimum size of tumors located in the renal parenchyma was 2-2.5 cm. Since the boundaries of small-sized tumors are not completely clear, it has not been so easy to detect them according to ultrasound. Since the internal structure of such tumors is homogeneous, differentiating them from the renal parenchyma required high skill and experience from the doctor conducting the examination. Considering that determining the direction of development of the tumor plays an important role in the selection of the type of operation to be performed, according to the examinations carried out by us, special consideration was given to this before the operation. 41 (24.1%) of the patients in our observation found the development of the tumor from the renal tissue to the outside (extrarenal), 74 (43.5%) - to the intrarenal pelvis system, and 55 (32.4%) - mixed. Determining the direction of development of the tumor has solved one of the important issues and the main ones facing specialists dealing with this severe pathology.

Thus, although the implementation of organ-preserving operations in small-sized fully intrarenal-developing tumors poses a big problem for specialists, our experience shows that in full extrarenal tumors measuring 4.0-7.0 cm, on the contrary, the removal of the organ will lead to a large discussion. In such cases, it is more expedient to carry out organ-preserving surgery. It has been determined by us with great precision, considering that the determination of the stage of invasion of the process plays a crucial role in the selection of the type of operation to be performed. Due to the wide range of possibilities of the examination, not only the location of the tumor, its number, and size were determined even before the operation at which stage of the process, as can be seen in the table below (Table 1).

In some cases, certain difficulties have arisen in diagnosing the disease and determining the stage of invasion. To overcome the problem, we have used computer tomography and magnetic resonance tomography comprehensively, despite the fact that it is economically expensive. In our observation, 84 of 170 patients diagnosed with kidney cancer underwent a computed

Table 1. *Grouping patients with kidney cancer according to the TNM system.*

Stage of Disease		Number of Patients (n=170)	
		Absolute	Relative %
T1	**T1N0M0**	**29**	17,1%
	T1aN0M0	15	8,8%
	T1bN0M0	14	8,2%
T2	**T2N0M0**	**66**	38,8%
T3	**T3N0M0**	**55**	32,4%
	T3aN0M0	32	18,8%
	T3bN0M0	18	10,6%
	T3cN1MX	5	2,9 %
T4	**T4N0M0**	**16**	9,4%
	T4N1MX	**4**	2,4%

Table 2. *Types of operations performed for kidney cancer.*

Types of Operation	Number of Patients (n=170)	
	Absolute	Relative
Radical nephrectomy	133	78,2±3,2%
Partial nephrectomy	27	15,9±2,5%
Enucleation	10	5,9±1,8%

tomography examination in order to clarify the diagnosis and choose the type of radical treatment. Of the 84 (49.4%) patients who underwent computed tomography, tumor tissue was found in 46 in the right kidney, and in 38 in the left kidney. In 34 of these patients, the edge of the tumor was concave protruding, in 27 it was smooth, in 23 it was mixed, it was determined that the tumor tissue developed from the pelvis in 18 patients and from the parenchyma in 66 patients.

During the examination, it was determined that the tumor tissue was located in the upper part of the kidney in 17 patients, in the lower part in 29 patients, in the middle pole in 38 patients, extrarenal in 23 patients, intrarenal in 41 patients, and mixed in 20 patients. The size of the tumor was 2.0-4.0 cm in 17 patients, 4.0-7.0 cm in 31 patients, and 7.0-12 cm in 36 patients. In most of the patients, it was shown that the tumor tissue was located in the middle pole and developed to a large extent inside the kidney. According to the examination results, T1N0M0-10, T1a-6, T1b-4, T2N0M0-35, T3N0M0-31, T3a-16, T3b-12, T3c-3, changes in lymph nodes were identified in 5 of these patients. In T4N0MX-8, T4N0M0-6, and T4N1M0-2 patients, the growth of lymph nodes was determined in 4 of these patients. In order to determine the stage of local spread of the process, in 23 (13.5%) of the patients under our observation, a new form of radiation examination method, the magnetic-resonance tomography method was used.

According to the examination, the tumor was located in the right kidney in 14 patients (in the pelvis-4, in the parenchyma-10), in the left kidney in 9 patients (in the pelvis-3, in the parenchyma-6), in the upper pole in 7 patients, in the middle in 11 patients, in the lower pole in 5 patients, the size of the tumor was 4.0-7.0 cm in 6 patients, , 3.0-4.0 cm in 4 patients, and 7.0-12 cm in 13 patients. Although computed tomography, which is one of the other methods of radiation examination in determining the stage of invasion of the process, is less informative in the differentiation of stages T3-T4, magnetic resonance tomography was chosen from other methods of examination due to the fact that it is capable of differentiating all stages of the process T1-T4. With the help of the examination, in our observation, T1N0M0-3, T1a-2, T1b-1, T2N0M0-9, T3N0M0-7, T3aN0MX-3, T3bN0-2, T3cN0-2, T4N0M0-4, T4N0MX-2, T4N1M0-2 patient operation defined in advance.

The indicators of all patients included in the study were collected on a special statistical card. Statistical analysis was conducted using discriminant and proven medical methods. 37 (21.7%) of 170 patients diagnosed with kidney cancer, depending on the location, size, direction of development of tumor, and stage of invasion, underwent organ-preserving surgery and 133 (78.2%) underwent radical nephrectomy (Table 2).

As can be seen from the table, radical nephrectomy was performed in most of the patients. This is explained by the fact that most of the patients with kidney tumors applied to our clinic at a late stage. Out of 133 (78.2%) patients who underwent radical nephrectomy, 84 were men and 49 were women. The tumor was identified in the right kidney in 76 (57.1%) patients and in the left kidney in 57 (42.9%) patients.

Infiltration of the tumor into the inferior vena cava in 5 of radical nephrectomy patients somewhat complicated the course of the operation, but nevertheless, with very technical difficulty, the renal tissue was completely separated from the vessel and removed under one block.

17 (12.8%) of the patients who underwent radical nephrectomy were identified in the pelvis, and 11 of these patients, in addition to the pelvis, ureters were found in the intramural part of the ureter, so the operation was performed with slightly enlarged kidney tissue, ureteronephrectomy under one block, and the ureter with an additional second incision to the ureter, the opened part was removed by circular resection.

In 51 (38.3%) patients, the tumor was located in the middle segment and infiltrated the upper and lower segments as well as toward the pelvis, in 19 (14.2%) patients, the tumor tissue covered the entire kidney tissue in a large volume, in 25 (18.8%) patients, the upper and the middle pole, in 21 (15.8%) patients, it covered the middle and lower pole and completely destroyed the kidney tissue.

According to pre-operative examinations (Ultrasound, MRI) in one patient, a tumor was noted in the pelvis, but during the operation, it was determined that the pelvis developed between the kidney parenchyma and the pelvis. It is noted that such cases are rare in the literature and in the practice of experienced doctors. Partial nephrectomy was performed in 27 (15,9±2,5%) patients, enucleation of the tumor in 10 (5,9±1,8%) patients.

The pathohistological examination of the removed macro preparations was carried out in terms of monitoring the course of the process in all patients, checking diagnostic integrity, and organizing treatment strategies to ensure the quality of life. Pathohistological examination of the macro preparation removed during surgery was performed in all patients who underwent nephrectomy and organ-preserving surgery. Pathohistological response: adenocarcinoma-27 (G1-12, G2-8, G3-5, GX-2), clear cell carcinoma-47 (G1-22, G2-13, G3-7,

GX-5), hypernephroid carcinoma -68 (G1-28, G2-21, G3-11, GX-8), medullary cell carcinoma-14 (G1-6, G2-3,G3-3, GX-2), agiomyoliposarcoma-14 (G1-7, G2-3, G3-2, GX-2) was ill.

Results and Discussion.

In our research work, we tried to determine the sequence of beneficial examinations for patients by analyzing the results obtained by conducting a comparative analysis between modern methods of radiation examination (ultrasound, CT, MRI) in establishing the initial diagnosis of kidney cancer, determining the location, size, direction of tumor and local prevalence of the process.

According to the results of our research, the response of USM to the stages of kidney cancer in determining the stage of process invasion is T1-97.9±1.2%, T2-94.2±2.3%, T3-92.2±2.5% %, T4-98.0±1.1%, and its sensitivity is 89.7±5.7% in T1 stage, 87.9±4.0% in T2 stage, 87.3±4.5% in T3 stage, It was 85.0±8.0.9% for T4 stage. In patients with kidney cancer, the diagnostic possibility of ultrasound examination and determination of the stage of invasion was 90.5% correct and 9.5% incorrect. T1-90.4%, T2-92.4%, T3-92.7%, T4-85.1% were like this. Looking at the results, the possibility of ultrasound examination in differentiating the T4 stage of the process was not so high compared to other stages. 9.6% of responses to ultrasound examination T1 stage, 7.6% in the T2 stage, 7.3% in the T3 stage, and 14.9% in the T4 stage were incorrect in determining the stage of invasion of the process.

According to the results of our research work, 3.5% in the location of the tumor, 2.9% in determining the direction of development of the tumor, and 2.3% in the number of patients were wrong in the answer to the ultrasound examination. In our observation, 84 out of 170 patients diagnosed with kidney cancer underwent a computed tomography examination in order to clarify the diagnosis and choose the type of radical treatment. With the help of the examination, the location, development direction, size, number, and degree of spread of the kidney tumors were determined and appropriate operations were performed. 90.4% correct in the placement of the tumor, 9.6% incorrect, 86.9% correct in determining the size of the tumor tissue, 13.1% incorrect, 92.6% correct in 7.4% in determining the direction of development intrarenal wrong, extrarenal development is completely consistent.

Specificity of computed tomography by stages in determining the degree of local spread of the process in patients with kidney cancer: T1-98.6±1.4%, T2-91.7±4.0%, T3-84.5±4.8%, T4-97.3±1.9% sensitivity and T1-90.9±8.7%, T2-80.6±6.6%, T3-80.8±7.7%, T4-72.7±13 it has been like this. While T1-80.1%, T2-88.5%, T3-83.3%, T4-87.5% of the computed tomography answers are correct, T1-19, 9%, T2-11.5%, T3-16.7%, T4-12.5% were incorrect.

In some literature data, the capabilities of the examination in differentiating the T3-T4 stages of kidney cancer are not highly evaluated, but in our research, on the contrary, there is a certain deficiency in the capabilities of the examination in distinguishing the T2-T3 stages, most likely due to the lack of experience of the doctor conducting the examination. In determining the degree of local spread of the process, 23 (13.5%) of the patients under our observation used a new form of radiation examination method which is magnetic resonance tomography. Operations were performed according to the results of the examination.

The response of magnetic resonance imaging in determining the stage of invasion of the process in patients with kidney cancer is the sensitivity for stages T1-100%, T2-80.0±17.9%, T3-81.1±11.6%, T4-80.0± 17.9%, and the specificity was T1-100%, T2-94.7±5.4%, T3-83.3±10.8%, T4-94.4±5.4%. The sensitivity of the test is defined as the number of true positive results in the final diagnosis, and the specificity of the true negative results is defined as the number of negative results in the final diagnosis. According to the results of our research, 91.3% of the answers to magnetic resonance imaging in the diagnosis of kidney cancer and determination of the degree of invasion were correct and 8.7% were incorrect. This type of answer is not a defect of the examination, but it is due to the lack of experience and scientific knowledge of the doctor conducting the examination.

During our 10-year observation, local recurrence was found in 3 patients who underwent radical nephrectomy and 1 patient who underwent partial nephrectomy.

While analyzing the above, it becomes clear that the examination of T1-T2 kidney cancer patients is fully specified on the basis of the general analysis of blood and urine, biochemical examination of blood, and ultrasound examination. CT and MRI methods do not add any information of different importance and can change the surgical strategies. Therefore, in this group of patients, it is possible to clarify the diagnosis by performing general examinations, US examination, and additional excretory urography in the case of tumors that fill the pelvis, which ensures a reliable solution to the surgical tactics. Our retrospective review revealed that the screenings related to the stage of cancer development were satisfactory and there was no need for additional more complex and expensive screenings.

Conclusion.

Therefore, in this group of patients, it is possible to clarify the diagnosis by performing general examinations, US examination, and additional excretory urography in the case of pelvis tumors, which ensures a reliable solution to the surgical strategies. Our retrospective review revealed that the screenings related to the stage of cancer development were satisfactory and there was no need for additional more complex and expensive screenings. In other patients (T3-T4), conducting preoperative thoracoabdominal CT and MRI examinations was considered important from the point of view of obtaining effective results in order to put an end to the controversial issues arising in the diagnosis and selection of radical treatment.

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