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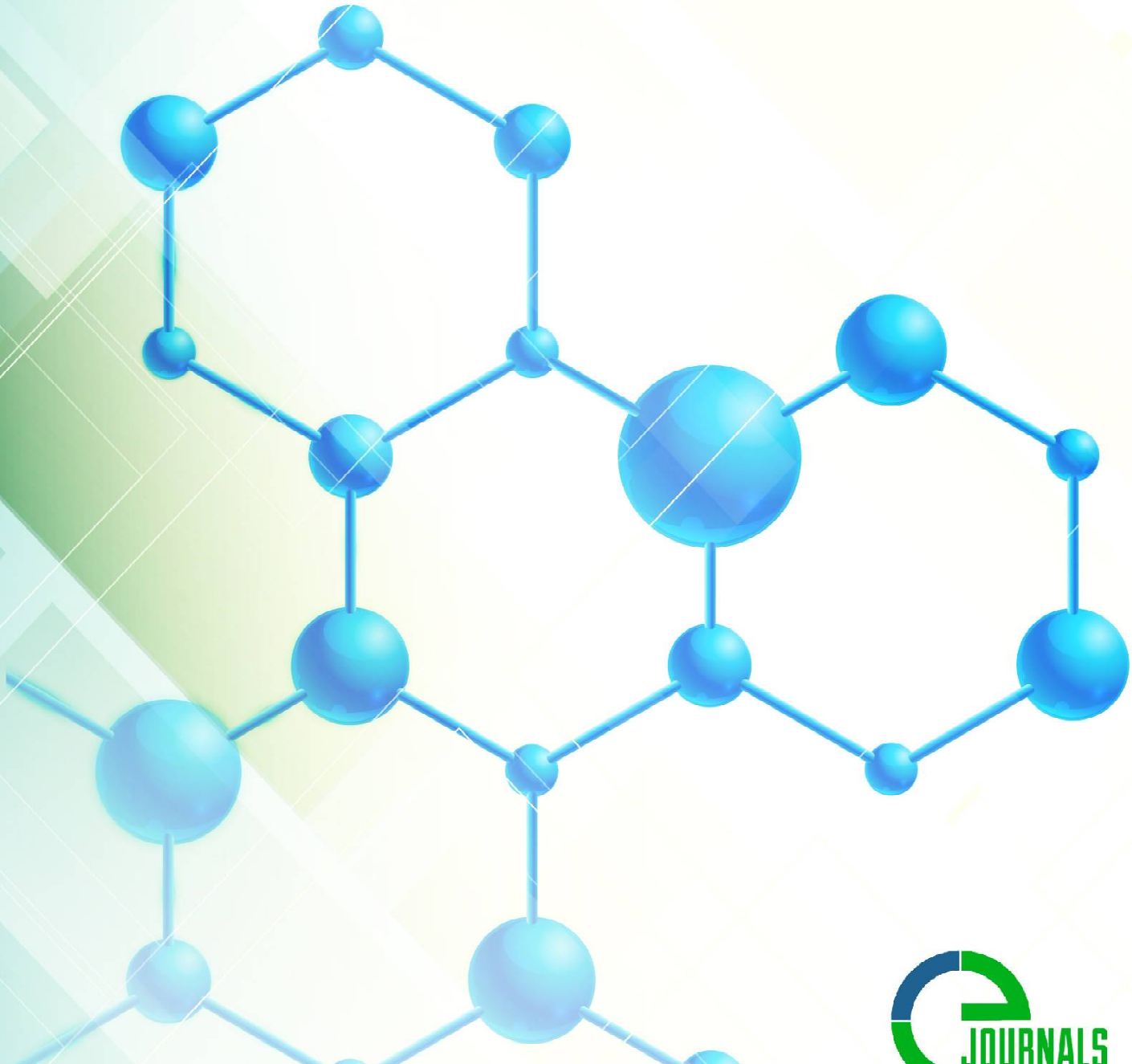

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ORGAN-SAVING STRATEGY IN SURGICAL TREATMENT OF RENAL TUMORS

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Abstract. Recently, due to the improvement of the diagnostic capabilities of medical institutions, the proportion of the category of patients with small kidney tumors has significantly increased. These patients, in accordance with world standards, are shown organ-preserving surgical strategy: resection of the kidney with a neoplasm. This problem, highlighted in the article, requires further consideration: optimization of indications for use and improvement of surgical techniques.

Keywords: tumor, kidney, organ-preserving surgery, resection, function.

Introduction. Currently, the diagnosis and treatment of kidney tumors is an important medical and social problem. According to the World Health Organization (WHO), kidney cancer is the 9th among all cancers in men and 14th in women. In the structure of mortality from oncological diseases, kidney cancer occupies the 16th place [1].

Nephron-sparing tactics or resection of renal cell carcinoma (RCC) is the benchmark for surgical treatment of this pathology. Although open or laparoscopic radical nephrectomy is considered the gold standard for stage T1b-T4 tumours, nephron-sparing surgery is the preferred operative technique for small kidney tumours, demonstrating equivalent oncological efficacy and preservation of kidney function compared to radical nephrectomy. With the advent of new technologies, organ-preserving procedures can be safely performed laparoscopically, as well as by using a surgical robot or without it [2].

Up to 60% of newly diagnosed kidney tumors are incidental findings during a routine examination for a non-cancer disease [3]. Improving the diagnostic capabilities of medical institutions (ultrasound, CT, MRI) leads to an increase in the proportion of patients with small (less than 4 cm) tumors [4]. Numerous studies indicate the same effectiveness of kidney resection and nephrectomy for localized encapsulated neoplasms less than 4 cm in size (T1a) [5,6].

Computed tomography (CT) is the "gold standard" of diagnostics in planning organ-preserving surgery for a kidney tumor, according to modern literature [6,7,8]. When diagnosing kidney tumors, the sensitivity of CT is 97.1%, and the specificity is 98.6% [9]. The use of helical three-phase CT with subsequent 3D reconstruction greatly increases the diagnostic value of the technique. A volumetric image of the kidney with simultaneous visualization of the neoplasm, pelvicalyceal system and vessels allows even at the preoperative stage to fully plan the upcoming intervention, taking into account the prevalence of tumor growth and the anatomy of the organ [10].

Magnetic resonance imaging (MRI) is almost as good as CT in terms of diagnostic efficiency (sensitivity and specificity of MRI is 97.1%) [9]. MRI does not make it possible to differentiate tissues by density and visualize calcifications, however, it has a number of specific advantages. MRI does not require the use of iodine-containing radiopaque agents. An important feature of magnetic resonance imaging is the ability to visualize the neoplasm pseudocapsule and determine the spread of the tumor process beyond it [11,12,13,14].

In a systematic review and meta-analysis, Mir MC et al. (2017), comparing the results of nephrectomy and radical nephrectomy for T1b and T2 tumors, showed that nephrectomy is an acceptable treatment option for larger kidney tumors, as it is

associated with a small number of surgical complications, provides equivalent cancer control and better preservation of renal function with the potential for better long-term patient survival. In T2 tumors, the use of organ-preserving interventions should be more selective, taking into account the individual characteristics of the patient and the tumor. According to the authors, further studies are needed to better define the role of kidney resection in these clinical situations [15].

Materials and methods. Over the past 15 years, in the Samarkand branch of the Republican Scientific Center of Emergency Medical Care, as well as in private medical clinics in Samarkand, 106 organ-saving operations for kidney tumors have been performed: 71 (67%) - unilateral tumors with an uncompromised contralateral kidney and 35 (33%) with pathologies or anomalies of the opposite organ:

10 (9.4%) - bilateral tumors of the kidneys, of which 2 (1.9%) operations performed on a single one;

11 (10.4%) - kidney stones;

6 (5.7%) - chronic glomerulonephritis and systemic lesions of the kidney parenchyma;

8 (7.5%) - anomaly of the opposite kidney with decreased function.

The initial chronic kidney disease (CKD) I-II stage was observed in 22 (20.7%) patients. All patients in the preoperative period were subjected to a thorough clinical examination, including laboratory methods, as well as all modern of imaging diagnostic methods: ultrasound, CT, MRI.

All operations were performed using a lumbar retroperitoneal approach with selective exposure of the elements of the renal pedicle and its temporary clamping with a soft vascular clamp. Removal (husking) of the tumor was performed partly by sharp, partly the blunt way, together with the tumor capsule. Size of the removed tumors varied from 3 to 9 cm. In 23 (21.7%) patients was performed classical resection of the kidney with a tumor. The time of ischemia of the operated kidney ranged from 5 to 12 minutes, depending on the number of first-row sutures applied to the parenchymal defect after tumor removal. The second row of sutures was placed with restored blood flow. For suturing the parenchyma defect, П-shaped and Z-shaped catgut sutures with fascial fat pads were used. In 22 (20.7%) cases, organ-preserving tumor resection resulted in nephrostomy.

Results. In the immediate postoperative period, the following complications were observed: bleeding into the cavitary system of the operated kidney, which led to nephrectomy in 1 (0.9%) patient; stress gastric bleeding, stopped conservatively in 2 (1.9%) patients; temporary aggravation of CKD in 26 (24.5%) patients.

In the postoperative period, patients were invited for a follow-up examination: the first year and a half every 3 months, the next year and a half every 6 months. And then once a year.

As a result of dynamic postoperative observation, isolated local tumor recurrence was detected in 2 (1.9%) patients: in one case, nephrectomy was performed, and in the second, repeated enucleation of the tumor located heterotopically with respect to the primary one. The five-year survival rate for patients with bilateral kidney tumors is 84%. There are no data on mortality from continued tumor growth in the group with healthy or concomitant diseases of the contralateral kidney.

Conclusions.

1.Organ-preserving surgery for kidney tumors is an alternative to classical nephrectomy and can improve the quality and life expectancy of patients.

2.The success of an organ-preserving operation is determined by a careful selection of patients, the availability of modern examination methods, the experience of the surgeon, and the reliability of applied anesthesia.

3.The possibility of effective performance of organ-preserving surgery depends not so much on the size of the tumor, but on its localization. The surgeon must be convinced that after removal of the tumor and suturing of the defect, the blood supply to the remaining parenchyma is adequate for the preservation of its function and there are no obstacles to the passage of urine.

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