27 Does expansion of indications for nephron sparing surgery reflects on the increasing incidence of local recurrence?

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Introduction & Objectives: Partial nephrectomy is a standard of care for treatment of T1a kidney tumors resulting in satisfactory oncological and functional outcomes. In cases with high levels of remaining functioning parenchyma volume and tumors sized over 4cm performing radical nephrectomy is controversial.
The aim of our study was to evaluate efficacy of partial nephrectomy in patients with kidney tumors larger than 4 cm in terms of local recurrence appearance.

Materials & Methods: Retrospective cross-sectional analysis of 925 patients treated with partial nephrectomy due to kidney cancer in our department from 2008 to 2016 years. The patients were divided into 3 groups : 428 (46,3%) patients with tumors < 40mm, 398 (43 %) – sized > 40m to 70mm, 99 (10,7%) – over 70 mm. In 78 (8,4%) cases the operation was done in terms of cytoreduction, in 9 (1%) – with a single kidney. In 798 (86,3%) of cases surgery was done without the use of central ischemia. Observation period ranged from 6 to 96 months (54,4 ± 20,2). The main goal of the study was local recurrence detection.

Results: Local relapse was diagnosed in 14 (1,5%) cases: 4 (0,9%) of the first group, 6 (1,5%) – in the second and 4 (4%) – in the third (p = 0,07). Recurrence appeared 5 – 56 months after surgery (in average 24,2 ± 13,3 months), and was significantly lower in third group (14,3 ± 3,9) in comparison with other 2 groups – 28 ± 9,8 and 28,3 ± 16,8 months respectively (p < 0,03).
According to pathology report there were 12 cases of clear-cell RCC (85,7%) and 2 (14,3%) – papillary RCC , with Fuhrman grading: II – 6 (42,8%), III – 4 (28,6%), IV – 4 (28,6%). In 4 patients (28,6%) tumor infiltrated perinephric fat.
11 (78,6%) patients underwent radical nephrectomy due to relapse, with further pathology report revealing increase in Fuhrman grading: II – 3 (21,4%), III – 3 (21,4%), IV – 5 (35,7%) cases. 3 (21,4%) patients were shifted to systemic targeted therapy due to metastatic disease.

Conclusions: Revealed treatment outcomes showed direct dependence of local relapse probability with tumor size: from 0,9% – in tumors ≤ 40 мм to 4% – within lesions > 70мм. Implementation of partial nephrectomy in large kidney tumors does not influence probability of local recurrence (p = 0,07).