

# Prognostic Factors for Surgical Margin Status and Recurrence in Partial Nephrectomy

Hüseyin Cihan Demirel<sup>1</sup>, Sedat Çakmak<sup>1</sup>, Abdullah Hızır Yavuzsan<sup>1</sup>, Cumhuriyet Yeşildal<sup>1</sup>, Semih Türk<sup>1</sup>, Ayhan Dalkılıç<sup>1</sup>, Sinan Levent Kireççi<sup>1</sup>, Emre Tokuç<sup>2</sup>, and Kaya Horasanlı<sup>1</sup>

<sup>1</sup>Sisli Hamidiye Etfal Training and Research Hospital

<sup>2</sup>Sultanbeyli State Hospital

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## Abstract

**Purpose:** To evaluate the prognostic factors affecting surgical margin and recurrence in patients who underwent partial nephrectomy for renal masses. **Materials and Methods:** Data of 125 patients who underwent open or laparoscopic partial nephrectomy due to renal mass between January 2006 and January 2019 were analyzed retrospectively. Demographic data, habits, additional diseases, clinical and laboratory findings, operational data, the morphology of the tumor in computerized tomography or magnetic-resonance imaging and follow-up data were scanned and acquired via our hospital's system and archive. **Results:** Average age was 54.4, male-female ratio was 1.55 and average tumor size was 3.31 cm. 104 patients had malignant pathology and 21 was benign. Positive surgical margin rate was 5.6% and recurrence rate was 3.2%. Average follow-up was 47.4 months. Pathological size of the tumor was larger ( $p=0.006$ ), warm-ischemia period was lower ( $p=0.003$ ), and PADUA score was higher ( $p=0.015$ ) in open technique. Tumor size and tumor stage were statistically higher in patients with recurrence ( $p=0.009$ ,  $p<0.001$  respectively). No statistically significant difference was observed between surgical margin positivity and tumor size, Fuhrman grades, PADUA scores, R.E.N.A.L. scores, and C-index. ( $p>0.05$ ) **Conclusion:** Surgical margin positivity after partial nephrectomy is not significantly associated with tumor characteristics and anatomical scoring systems. Tumor size and stage after partial nephrectomy are valuable parameters in evaluating the recurrence risk. **Keywords:** nephrectomy, recurrence, margins of excision, prognosis

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