

## Renal Artery Pseudoaneurysms after Partial Nephrectomy

**Introduction and Objective:** Partial nephrectomy (PN) has recently been advocated as the preferred treatment for small tumors of renal cell carcinoma (RCC) with equivalent oncological outcomes, better preservation of renal function and improved overall survival compared with radical nephrectomy (RN). Renal artery pseudoaneurysm (RAP), a characteristic complication following PN, occurred 1-2% of patients after PN, according to previous reports. In the present study, we reviewed the cases of RAP after PN in our hospital.

**Materials and Methods:** Between January 2005 and January 2012, 434 patients with renal tumors underwent PN in our hospital. Of these, five patients (1.2%) in whom RAP occurred, are the subjects of this study. We reviewed several factors including patient, tumor and surgical characteristics in these five patients. Tumor factors were analyzed according to their RENAL nephrometry score.

**Results:** The result of our analysis is shown in the table. Although Case 1 underwent laparoscopic PN, the other four patients underwent open PN. Tumor complexity was not homogeneous in this cohort. Case 1 had no symptoms and was diagnosed with RAP on follow up CT three months after surgery. Rupture of the pseudoaneurysm occurred in the other four patients and resulted in the diagnosis of RAP. All five patients underwent selective angioembolization successfully and remained without any evidence of recurrence.

**Conclusion:** Although all of the patients were successfully treated with angioembolization, in our settings, RAP has to be viewed as potentially life-threatening. In previous reports containing the present study data, most of the RAP was diagnosed at 7-15 days after PN. To diagnose RAP earlier, we started to perform computed tomography examinations before discharge from hospital in patients who underwent PN, with the exception of patients with severe renal dysfunction.