

443 LOCAL RECURRENCE AFTER SIMPLE TUMOR ENUCLEATION FOR RENAL CELL CARCINOMA: RESULTS OF A PROSPECTIVE SINGLE CENTER STUDY

Minervini A.¹, Raspollini M.R.², Di Cristofano C.³, Lapini A.¹, Tuccio A.¹, Vittori V.¹, Serni S.¹, Carini M.¹, Siena G.¹
¹Urologic Clinic I, Dept. of Urology, Florence, Italy, ²University of Florence, Careggi Hospital, Dept. of Pathology, Florence, Italy, ³Sapienza University of Rome, Polo Pontino, I.C.O.T, Dept. of Experimental Medicine, Latina, Italy

Introduction & Objectives: The tumour enucleation technique (TE) has found a growing number of supporters as nephron sparing surgery (NSS) due to the excellent results reported in retrospective series along with the prospective pathological confirmation of its oncological safety. The aim of the present study is to prospectively evaluate the risk of local recurrence in patients treated with blunt TE. The risk of local and systemic recurrence related to pseudocapsule (PS) status was also evaluated.

Material & Methods: Between 2005 and 2007, data were gathered prospectively from 201 consecutive patients who had TE. TE was done by blunt dissection using the natural cleavage plane between the tumour and normal parenchyma. The degree and side of PS penetration, surgical margins (SM) and routinely available clinical and pathological variables were recorded. Patients had an abdominal CT at the last follow up visit.

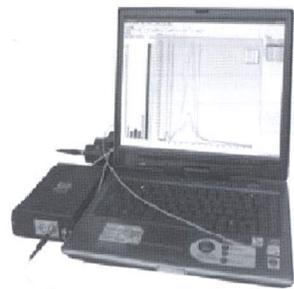
Results: Overall, 164 tumours were diagnosed as single sporadic RCC and thus included in the study. At the pathological examination, in 99 RCCs (60.3%) the PS was intact and free from invasion (PS-) while 44 RCC (26.9%) had PS penetrated on the parenchymal side (PSK) and 12.8% on the perirenal fat tissue side (PSF). In all cases the SM were negative. At a mean (SD, median, range) follow up of 33 months (11.4, 31, 19-67), no local recurrence were diagnosed. In particular, none of the PSK RCCs recurred locally thus confirming the pathological results. The 3- and 5-years cancer specific survival were 100% and 95%, respectively. The 3- and 5-year progression-free survival (PFS) for the entire series were 96% and 94.1%, respectively. Then we stratified PFS according to PS status and we showed PS status as a significant risk factor for systemic recurrence. The 4-year PFS for tumors PS-, PSK and PSF was 98.9%, 92.3% and 79.4%, respectively (p=0.002; PS- vs. PSF p=0.0009; PSK vs. PSF p=0.038; PS- vs. PSK p=NS).

Conclusions: TE is an oncologically safe procedure. The presence of PSK is not associated with any greater risk of local recurrence. The presence of PSF is a significant prognostic factor of systemic disease recurrence.

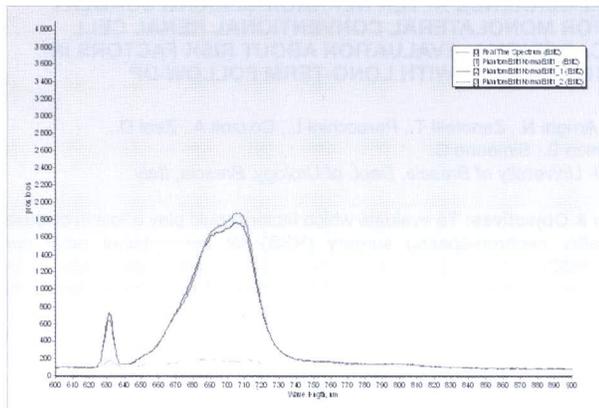
444 PHOTODYNAMIC DETECTION OF THE RENAL CELL CARCINOMA DURING THE KIDNEY-PRESERVING TUMOR RESECTION

Apolikhin O.I.¹, Chernishev I.V.², Sivkov A.V.³, Samsonov Y.V.², Altunin D.V.², Kuznetsov R.A.²
¹Research Institute of Urology, Director, Moscow, Russia, ²Research Institute of Urology, Dept. of Oncology, Moscow, Russia, ³Research Institute of Urology, Dept. of Innovative Technologies, Moscow, Russia

Introduction & Objectives: To identify the outer border of a renal cell carcinoma (RCC) with the help of photodynamical and spectroscopic detection after the exogenous administration of 5-aminolaevulinic acid (ALA) in humans, during partial nephrectomy.



Material & Methods: In a pilot study, 14 patients with a renal mass < 4 cm diameter underwent open surgery partial nephrectomy. For photosensitization, 1.5 g 5-ALA was administered orally 4 h prior to surgery. During the operation, the resection site and the outer tumor border were inspected under excitation light for characteristic red fluorescence. Intensity of fluorescence of the tumours was evaluated by spectroscopy (pic 1). Any side-effects were recorded. The results of fluorescence diagnostics were matched up to the histological findings.



Results: In the patients undergoing surgery, the RCC also fluoresced clearly and was sufficiently intense (normal tissue green line, tumor – blue line (pic.2) to identify the outer margins of the tumours for nephron-sparing surgery. There were no side-effects of the ALA with the dosages and methods of administration used.

Conclusions: Photodynamic diagnostics after systemic administration of 5-ALA assists the surgeons in visualization and assessment of surgical margins, making resection radical. That'll lower local recurrence rate and will rise disease-free survival rates in the first 1-2 years. is a reliable detection tool of renal tumour assess the type and the resection status of a suspected renal tumor during nephron-sparing surgery.

445 IMPACT OF NEPHRON SPARING SURGERY COMPARED TO RADICAL NEPHRECTOMY ON RENAL FUNCTION AND SURVIVAL: A MATCHED COMPARISON ANALYSIS

Pahernik S.A., Pfitzenmaier J., Huber J., Haferkamp A., Hohenfellner M.
 University of Heidelberg, Dept. of Urology, Heidelberg, Germany

Introduction & Objectives: Renal function is of essential importance for the individual cardiovascular risk profile. The aim of the study was to analyze in a comorbidity balanced and patient-to-patient matched cohort the impact of surgery (nephron sparing surgery vs. radical nephrectomy) for renal cell carcinoma on renal function and tumour specific and overall survival over long-term.

Material & Methods: We identified in our prospectively conducted kidney cancer database 216 patients who underwent for treatment of RCC surgery. Patients after nephron sparing surgery (NSS) and radical nephrectomy (RN) were matched on a patient-to-patient basis and balanced with respect to age, gender, tumor size, comorbidities and preoperative renal function. Patients with renal insufficiency grade 3 or more (GFR < 60 ml/min) according to the guidelines of Kidney Disease Outcome Quality Initiative (KDOQI) were not enrolled into the study. Age was 59.1 (19.6-81.6) years and 58.4 (20.1-79.9) years for RN and NSS, respectively. Tumor size was 3.0±1.2 cm and 3.1±1.1 cm for RN and NSS, respectively. Creatinine was 0.86±0.2 mg/dl and 0.89±0.2 mg/dl for RN and NSS, respectively. With respect to comorbidities hypertension was present in 37.4% and 32.7%, coronar heart disease in 14.0% and 17.8% and diabetes in 17.8% and 15.9% for RN and NSS, respectively. GFR was calculated according to the simplified MDRD formula after Levey. Kaplan Meier analysis and cox regression was performed for statistical analysis.

Results: Preoperative renal function was 85.3±17.8 vs. 87.8±19.3 ml/min RN and NSS, respectively. After surgery, renal function was 55.0±11.8 vs. 79.0±21.0 ml/min after 3 months, 54.7±10.2 vs. 80.2±22.8 ml/min after one year and 55.2±14.3 vs. 76.7±22.7 ml/min after 5 years for RN and NSS, respectively (p<0.05). Stage III renal insufficiency free survival (GFR < 60 ml/min) was 33.9 vs. 91.6% after 5 years and 18.1% vs. 72.9% after 10 years for RN and NSS, respectively (p<0.05). Nine vs. five patients died due to cardiovascular diseases after RN and NSS, respectively. Tumour specific survival rate was 93.8% vs. 97.1% after 5 years and 91.0% vs. 97.1% after 10 years for RN and NSS, respectively. Overall survival rate was 82.2% vs. 83.9% after 5 years and 66.2% vs. 72.8% after 10 years for RN and NSS, respectively.

Conclusions: Patients undergoing NSS for treatment of RCC benefit with respect to renal function and related comorbidities compared to patients undergoing radical nephrectomy.

446 RADICAL NEPHRECTOMY IS ASSOCIATED WITH DECREASED OVERALL SURVIVAL COMPARED WITH PARTIAL NEPHRECTOMY

Waalkes S.¹, Merseburger A.S.¹, Kramer M.W.¹, Wegener G.², Kuczyk M.A.¹, Herrmann T.R.W.¹
¹Medical School Hanover, Dept. of Urology, Hanover, Germany, ²Medical School Hanover, Clinical Cancer Registry, Hanover, Germany

Introduction & Objectives: Numerous reports demonstrate equivalent oncological outcome in patients treated with radical and partial nephrectomy (PN). Since