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aims to quantify the severity of acute kidney injury after open radical nephrectomy (ORN) in patients with RCC.
Materials and Methods: We conducted a prospective study during 2007-2010 on patients undergoing ORN. The patients were divided into two groups depending on the progress on the development of postoperative AKI (Acute kidney injury). Study group (I) - 115 patients with postoperative AKI. The control group (II):69 patients without postoperative AKI. AKI was defined using the modified RIFLE (risk, injury, failure, loss, ESRD) classification by measuring the creatinine *clearance* (Cockroft formula) between preoperative and postoperative period (postoperative D1 and D7). Since the groups were heterogeneous, we used an index based on nearest neighbor algorithm in order to homogenize the study group (I). In statistical analysis, all data were performed using SAS software 9.1 (SAS Institute, Cary, NC) and Limdep (Econometric Software Inc. Plainview, NY).
Results: The incidence of AKI after ORN was 20.2%. Preoperative variables that were significantly associated in the univariate analysis with development of AKI included age>55 yrs, diabetus mellitus (p <0.0046), CHF with EF <30% (p <0.057), administration of contrast agent or other nephrotoxic substances (p <0.0531). Intra- and postoperative factors that were associated with postoperative AKI were hypotension during surgery, use of vasopressors, and postoperative hypotension.Multiple regression logistic model confirmed an independent and significant association of AKI and preoperative use of ACEI. Our study showed a significant association of long-term use of ACEI and postoperative AKI (primarily stage 2 and 3 AKI). This was confirmed using a bivariate-probit and likelihood ratio model that adjusts for confounding by indication of use and selection bias.
Conclusion: Preoperative use of ACEI is associated with a higher risk for AKI postoperatively. ACEI in association with CHF with EF <30% and diabetes mellitus can cause a severe impairment of renal function (stage 2 and 3) when compared to that of the non-ACEI medication. Age and hypotension during surgery cannot generate AKI alone but may worsen the prognosis of the patient postoperatively. The association of comorbidities in a patient favours the development of preoperative AKI, but do not determine AKI alone.

UP-01.185
Intermediate Term Follow-Up of a Cohort of 63 Old and Comorbid Patients with Renal Masses Primarily Treated with Observation
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Introduction and Objective: In 2009 in *European Urology*, we published short-term results of a cohort of patients with renal masses primarily managed by observation. In this study, we report the intermediate term follow-up data.
Materials and Methods: The records of the 63 patients, during the years 2002-2007, were in the first study reviewed retrospectively. The mean age for all patients at diagnosis was 76.6 years, and 59% were male. Mean tumor size was 4.3cm at diagnosis, and 30% were in ECOG performance status 2 and 3, 78% were ASA class 3 and the patients had 2.8 (mean) other medical conditions. In this follow-up study, we have continued the follow-up until March 1, 2011. Mean observation time (± SD) for the patients still alive is 77 ± 29 months (median: 65, range: 45-169 months).
Results: At eight-year observation time, only 26% of the cohort was still under ongoing observation. Eight year overall survival (OS) and cancer specific survival (CSS) was 37% and 94%, respectively. for tumors ≤ 4.0cm, eight year CSS was 100%. for tumors > 4.0cm the eight year CSS was 86%. This difference is statistically significant (p=0.034).None of the patients in the ≤ 4.0cm tumor group has progressed, but five patients in the >4.0cm group have progressed. Three are dead of RCC, one died of heart disease, but autopsy revealed asymptomatic progression and lymph node metastases. The last patient is still alive with an asymptomatic, but locally advanced tumor. Eleven patients have received delayed radical treatment, of which none have had later progression of the disease. In 22 patients histopathological diagnosis of the renal mass has become available, and 18 (82%) of these had verified RCC.
Conclusion: Management of renal masses ≤ 4.0cm by observation among older and co-morbid patients seems to give highly acceptable results in regard to OS and CSS after 8 years. In patients with a renal mass >4.0cm, there is a substantial risk of progression. The use of observation in this group should be restrictive, and limited only to very poor surgical candidates.

UP-01.187
Partial Nephrectomy for Kidney Cancer: Functional Results after First 43 Cases
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Introduction and Objective: Ablation of small renal tumors (RCC) with savings of kidney, "nephron sparing surgery, NSS" is now considered a standard therapy. Radical nephrectomy and NSS provide equally effective curative treatment in patients with RCC single, small (<4cm) and clearly localized tumors. Indications for conservative surgery include those situations where the nephrectomy would render the patient anephric resulting need for dialysis. In selected cases, the technique can be extended to larger tumors.
Materials and Methods: From 2003 to 2010 we performed 43 NSS. One patient had bilateral RCC, four a solitary kidney after nephrectomy for cancer, the remaining 38 patients had a small tumor or renal function decreased. A partial nephrectomy was performed in 15 cases, in the remaining 28 a wedge resection was performed with hot or cold ischemia after clamping the artery and i.v. infusion of 100 ml. of mannitol. Three patients were operated laparoscopically, without clamping the artery and after selective embolization. We collected data of chemistry, biology of tumor (size, histology), operative time, ischemia time, divided renal function (GFR) scintigraphically assessed before and after surgery. The Student t test was used for statistical results.
Results: We operated 42 patients (34M/8F) with mean age 64.5y (33/78). One had bilateral cancer and underwent NSS in two times. In 53% of cases tumor was in the right kidney, 47% in the left, the average diameter of tumor was 3.9cm (1.5/6). The lombotomic approach was used in 38 cases, anterior transverse subcostal in 2, laparoscopic approach in 3. The mean operative time was 232 minutes (170/360) and kept warm or cold ischemia (mean= 21 min/hot, 34 min/cold). Fourteen patients required blood transfusions: one unit in 5 patients, only two patients needed more than 3 transfusions for postoperative bleeding complications

and reoperation, however, retains the kidney. Total hemoglobin decreased significantly ($p < 0.002$); Serum creatinine increase from 1.25 to 1.52 ($p < 0.07$); BUN 47.33 to 58.50 ($p < 0.06$). The total GFR showed no significant mean decrease and side tumor mean GFR decrease from 48.6 to 43.2 ml/min ($p < 0.06$) One patients in the solitary kidney GFR showed a significant decrease (50.2 to 30.8 $p < 0.03$) without need for dialysis.

Conclusions: The nephron-sparing surgery with hot or cold ischemia has been a clear indication. The nephron sparing procedure is a safe and acceptable in elective surgery. The survival rates and disease free are similar to those of total nephrectomy. Warm or cold ischemia doesn't usually determine significant loss of renal function.

UP-01.188

Laparoscopic Radical Nephrectomy: Initial Experience and Comparison with Experienced Surgeon Perioperative Outcomes

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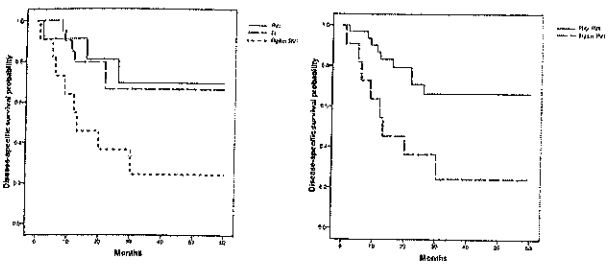
Introduction and Objective: To compare the perioperative outcomes from our initial laparoscopic radical nephrectomy (Hospital General Mancha-Centro: HGMC) experience with the results of a contemporary group of patients from an experienced surgeon from a different institution (Hospital Universitario 12 Octubre: H12O) with laparoscopic tradition.

Materials and Methods: We retrospectively evaluated all patients who underwent laparoscopic radical nephrectomy (LRN) for renal mass between May 2009 and February 2011in both centers. Data collected included patient age, tumour size, body mass index (BMI), estimated blood loss, operative times, need for transfusion, and hospital stay. In addition, previous abdominal surgery, complications and conversion rate were calculated for each different institution.

Results: Twenty-eight patients underwent LRN, 13 in HGMC and 15 in H12O. Mean age was 63 and 55 year,s respectively. Mean operative time in the HGMC group was 260 minutes versus 144 minutes in H12O. There was a statistically significant difference in operative times between the two groups (p 0,001). Mean tumour size was 4.4cm versus 6.3cm respectively (p 0.045). There was no statistically significant difference between the 2 groups in estimated blood loss, need of transfusion, BMI and hospital stay. In the HGMC group 30% of the patients had previous abdominal and 13% in H12O group. No complications were observed in the HGMC group while and intestinal serosal injury oversewn intraoperatively, was described in the H12O group. Two patients were converted to open nephrectomy in the HGMC group, one due to extensive subcutaneous emphysema and other to long operative time. No conversions were described in the other group.

Conclusions: Despite our initial experience and the low number of cases reported, our perioperative outcomes are similar to a cohort of contemporary patients from an experienced surgeon, in terms of estimated blood loss, need for transfusion and hospital stay. There were differences in tumour size and operative time mainly because of the initial learning curve in HGMC.



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UP-01.189

Impact of Renal Vein Invasion and Fat Invasion in PT3a Renal Cell Carcinoma

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Introduction and Objective: To evaluate the prognostic impact of tumor fat invasion (FI) and renal vein invasion (RVI) in patients with T3a renal cell carcinoma (RCC).

Materials and Methods: Two hundred and twenty consecutive patients treated for RCC between 1992 and 2009 were selected. T3a stage cases were selected. A single pathologist reviewed all cases.

Results: Our cohort included 46 patients with mean follow-up of 28.6 months, of whom 16 (34.6%) died from disease. Patients were initially divided as three groups including 24 (52.1%) of FI only, 11 (23.9%) of RVI only and 11 (23.9%) of both FI and RVI. No significant differences in disease-specific survival (DSS) were noted between FI only and RVI only groups ($p = 0.91$). In univariate analysis DSS was significantly worse in the FI plus RVI group compared to the other groups ($p = 0.02$). When grouped into FI or RVI vs. FI plus RVI, DSS remained significantly lower in the group containing the parameters concurrently ($p = 0.009$). Progression-free survival (PFS) also was significantly lower in FI plus RVI group ($p = 0.01$). Metastasis, positive lymph nodes and the presence of FI plus RVI remained as isolated predictors of survival. Patients with FI plus RVI presented a higher probability of death from cancer (HR 2.6, $p = 0.04$) and disease progression (HR 2.5, $p = 0.04$) than those with either of them alone.

Conclusions: The isolated or concomitant presence of FI and RVI shall be used as one of the criteria for staging in the next edition of the TNM classification, since they have significantly different outcomes.

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The Fuhrman Grading System and CD44: Revisited Themes

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Introduction and Objectives: CD44 and its variants constitute a protein family involved in cell-cell and cell-extracellular matrix interactions and have been previously associated with Fuhrman grading system. The purpose of this study was to analyze the immunohistochemical expression of CD44 in renal cell carcinoma (RCC) and its impact on clinical outcomes.

Materials and Methods: One hundred forty-two consecutive patients treated surgically for RCC between 1992 and 2009 were selected. A single pathologist reviewed all cases to effect a uniform reclassification and determined the most representative tumor areas for construction of a tissue microarray.