

P187

HISTOPATHOLOGICAL ANALYSIS OF PERITUMORAL PSEUDOCAPSULE AND SURGICAL MARGIN STATUS AFTER ENDOSCOPIC ROBOT-ASSISTED SIMPLE ENUCLEATION (ERASE) FOR RENAL CELL CARCINOMA.

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Scopo del lavoro

The Scopo del lavoro is to evaluate the peritumoral pseudocapsule (PS) and the surgical margin status at the tumor-parenchymal interface after ERASE for renal cell carcinoma (RCC).

Materiali e metodi

Data were prospectively collected from a cohort of 124 consecutive patients undergoing ERASE for malignant RCCs at our Institution. PS and healthy renal margin (HRM) thickness, PS infiltration and surgical margin status were analyzed by a dedicated uropathologist. Tumor histotype was classified according to the 2012 ISUP Vancouver Classification of Renal Neoplasia. Follow up was recorded at 6, 24 and 48 months.

Risultati

RCCs were classified as low, medium and high complexity (PADUA score 6-7, 8-9 and ≥ 10 , respectively) in 69.4%, 23.4% and 7.2% of patients, respectively. Tumor histotypes was: clear cell (cc) RCC in 61.3% of patients, papillary (p) RCC in 14.5%, chromophobe (ch) RCC in 16.1%, multilocular cystic renal neoplasm of low malignant potential (MCCN-LMP) in 4.9% and clear cell papillary RCC (ccpRCC) in 3.2%. PS was absent in 1.6% of patients. Partial and complete PS infiltration were recorded in 39.0% and 17.1% of cases, while it was intact in 43.9%. Positive surgical margins were recorded in 2.4% of cases. Median thickness of PS and HRM were 263.3 (IQR 137.3-444.6) μm and 401.6 (IQR 137.9-921.2) μm . Peripheral and sinus fat invasion were recorded in 9.4% and 1.1 % of patients, respectively. Median PS thickness was significantly higher in ccpRCC and MCCN-LMP compared to the other histotypes (209 vs 389 μm ; $p=0.001$). Among the latter subgroup, median PS thickness was significantly higher in ccRCC compared to pRCC and chRCC (220.2 vs 111.1 vs 59.5 μm ; $p<0.001$). Tumor diameter at histopathological analysis was significantly different between tumors with (PS+) and without (PS-) pseudocapsule infiltration (3 (IQR 2.4-4.0) vs 2.6 (IQR 1.9-3.5); $p=0.05$), as well as tumor histotype ($p=0.01$), nucleolar grading ($p=0.01$) and pT status ($p=0.002$). On the contrary, there was no significant difference regarding PS and HRM thickness between the two groups.

Discussione

ccpRCC and MCCN-LMP showed a significantly thicker and less infiltrated PS compared to the other renal histotypes. PS infiltration was significantly associated with tumor diameter, grading and pT stage.

Conclusioni

In our cohort, there was no relationship between the degree of PS infiltration and both surgical margins status and local recurrence. However, further studies are needed to assess the long-term prognostic role of PS infiltration for RCC.