MP50-03: Impact of Diabetes Mellitus on Functional and Survival Outcomes in Renal Cell Carcinoma: An International Multicenter Study

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INTRODUCTION/OBJECTIVES

• Functional decline is an important consideration in the surgical treatment of renal cell carcinoma (RCC), especially in diabetes mellitus (DM) patients who are at increased risk of chronic kidney disease (CKD).
• We investigated the relationship between DM and decline in kidney function following surgery for RCC, and impact on overall survival (OS) in patients with RCC.

METHODS

• Retrospective international multicenter analysis
  • UC San Diego, Emory University, Tokyo Medical and Dental University
• Analyzed patients undergoing partial nephrectomy (PN) or radical nephrectomy (RN) for RCC
• DM
• No DM (NDM)
• Primary outcome: 5-year OS
• Multivariable Analyses (MVA) and Kaplan Meier Analyses (KMA) were utilized to elucidate predictors for:
  • eGFR<45 ml/min/1.73m²
  • eGFR<30 ml/min/1.73m²
  • All cause mortality (ACM)

RESULTS

• 2,928 patients analyzed
  • DM n=406
  • NDM n=2522
• Groups were similar in:
  • Sex (p=0.404)
  • Mean clinical tumor size (p=0.976)
  • Type of surgery (p=0.862)
• More common in DM group:
  • Increasing age (61.71 vs 58.96, p<0.001)
  • HTN (64.0% vs 31.6%, p<0.001), CAD (19.2% vs 10.7%, p<0.001)
  • Increasing BMI (32.4 vs 29.3, p<0.001)
• Postoperatively de novo eGFR<45 (21.9% vs 15.7%, p<0.001) and de novo eGFR<30 (12.1% vs. 6.3%, p<0.001) developed more frequently in DM group.
• On MVA, DM was independently associated with development of de novo:
  • eGFR<45 (OR=1.88, p<0.001)
  • eGFR<30 (OR=2.09, p<0.001)
• KMA revealed DM is associated with worse OS for patients treated with RN (76.8% vs 79.6%, p=0.047), but not for patients treated with PN (76.8% vs 73.0%, p=0.944)

CONCLUSIONS

• Presence of DM is an independent risk factor for renal functional decline and development of worsening CKD is a risk factor for worsening ACM.
• Decreased survival in DM patients was noted with RN treatment, but not with PN treatment.
• Presence of DM may be a strong indicator for nephron preservation management strategies when safe and feasible.