Diabetes and Risk of Renal Cell Carcinoma

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Abstract:

Background and objectives: There is evidence that the incidence of solid tumors is markedly increased in patients with diabetes mellitus. In the current study, we investigate the association between diabetes and renal cancer.

Patients and Methods: A single-center retrospective analysis of 473 patients who underwent nephrectomy for renal cell carcinoma (RCC) was performed. Diabetic RCC patients were screened for age, gender, ethnicity, HgA1C, glucose levels and renal function.

Results: Of the 473 cases with RCC, we identified 120 patients (25.4%) with a history of diabetes. The incidence of diabetes in RCC patients was higher in female than male subjects and in Hispanic compared to White and Other ethnic backgrounds. At diagnosis, the majority of diabetic RCC patients were 50-59 years of age. In diabetic RCC cases, clear cell type histology (92.0%), nuclear grade 2 (56.1%) and tumor size range from 1-5 cm (65.7%) were the most common in each category.

Conclusion: Our findings indicate that diabetic RCC patients have a predominance of localized, small clear cell RCC. In addition, females with a history of RCC have a higher frequency of diabetes compared to males. This is the first report of clinical and histopathological features of RCC associated with diabetes.

Key Word:
RCC, diabetes, race, gender, tumor stage and HgA1C