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Abstract #26-8935: Germline Pathogenic Variants in Individuals with Renal Cell Carcinoma

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INTRODUCTION

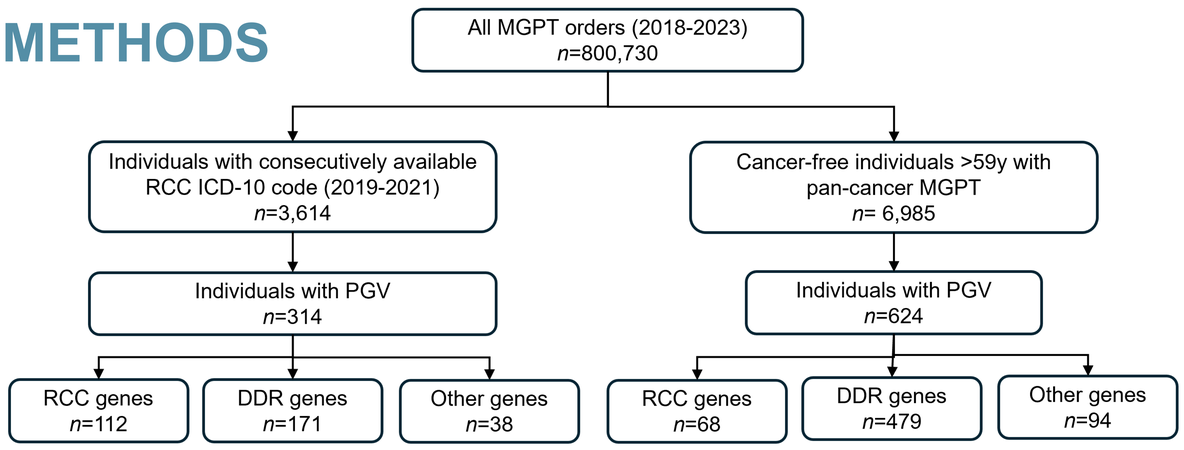
Germline genetic testing (GGT) is recommended for patients (pts) with renal cell carcinoma (RCC) and any of the following:

- Bilateral/multifocal disease
- Specific variant histology
- Diagnosis < 46 years old, or
- Family history of renal neoplastic syndrome

Retrospective studies of selected cohorts with advanced disease or suggestive personal/family histories show (likely) pathogenic germline variant (PGV) prevalence of 5-18%

AIM: Determine the prevalence of PGVs and clinical utility of GGT in an unselected cohort of pts with RCC

METHODS



Multivariable logistic regression used to assess association between PGV status and RCC diagnosis, adjusting for age at testing, race, and sex at birth.

MGPT = multi-gene panel testing; DDR = DNA damage repair

CONCLUSIONS

- Overall prevalence of PGVs was ~9% in both RCC and cancer-free cohorts.
- RCC predisposition genes were enriched in pts with RCC.
- These findings support broader implementation of GGT for pts with RCC to guide screening for additional malignancies, management in advanced disease, and cascade genetic testing for family members.

RESULTS

- RCC cohort was younger (mean age at testing 55y) and had fewer females (50%) vs. the cancer-free cohort (mean age at testing 66y and 84% female)
- Prevalence of any PGVs similar in RCC vs. cancer-free cohort (OR 0.93; 95% CI 0.79-1.10).

  In RCC cohort, PGVs in RCC genes enriched (OR 2.73; 95% CI 1.91-3.92) and PGVs in DDR genes reduced (OR 0.68; 95% CI 0.55-0.83)

Figure 1. Prevalence (%) of PGVs in the RCC and cancer-free cohorts.

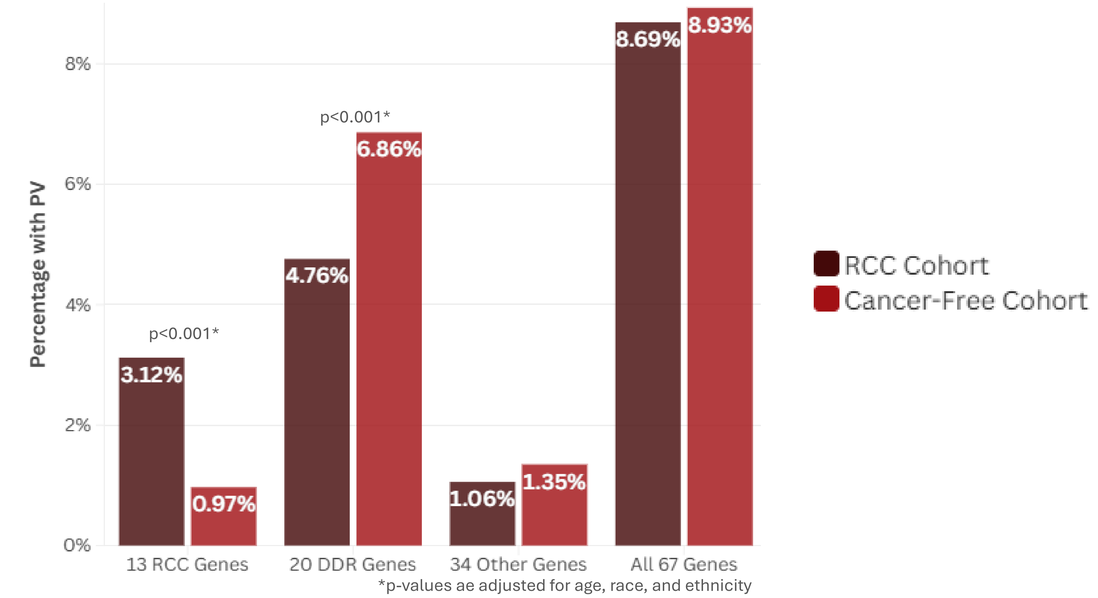


Figure 2. Proportion of each type of PGV in the RCC and cancer-free cohorts.