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Early-onset prostate cancer : Interplay of PRS & family history and rare pathogenic variants

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Introduction

1. Polygenic risk score (PRS) has been known to influence development of the prostate cancer over a life course.
2. PRS have recently been shown to have relative risks that depend on age, and genetic relative risks decrease with increasing age.
3. A recent study assessed the interplay of polygenic risk, rare pathogenic variants, and family history ([Hassanin et al. 2022](#)).

Objectives

We aimed to comprehensively assess the role of polygenic risk score (PRS):

- in the early-onset prostate cancer (PC) vs late-onset
- in the absence or presence of a family history of PC (FH)
- in the absence or presence of rare pathogenic variants (PV, across 5 PC susceptibility genes - HOXB13, BRCA2, ATM, CHEK2, BRCA1).

Methods

References

Hassanin, E., P. May, R. Aldisi, I. Spier, A. J. Forstner, M. M. Nöthen, S. Aretz, P. Krawitz, D. R. Bobbili, and C. Maj. 2022. "Breast and prostate cancer risk: The interplay of polygenic risk, rare pathogenic germline variants, and family history." *Genet Med* 24 (3): 576–85.

