Risk-adapted starting age of CRC screening varies by sex, genetics

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Risk-adapted starting ages of screening vary by sex and polygenic risk score (PRS) among individuals at average risk for colorectal cancer (CRC), according to a study published online Oct. 25 in *JAMA Network Open*.

Xuechen Chen, Ph.D., from the German Cancer Research Center in Heidelberg, and colleagues illustrated derivation of risk-adjusted starting ages of CRC screening based on the concept of risk advanced period (RAP) using sex and PRS. Participants were from the U.K. Biobank (aged 40 to 69 years) with no family history of CRC and no previous bowel cancer screening.

Overall, 2,714 incident CRC cases were identified during a median follow-up of 11.2 years and 758 deaths were reported during a median follow-up of 12.8 years among 242,779 participants. The researchers found that for men versus women, the hazard ratios of CRC risk were 1.57 and ranged from 0.51 to 2.29 across PRS deciles compared with the reference.

For men versus women, the RAPs were 5.6 years and varied from −8.4 to 10.3 years across PRS deciles when compared with the reference deciles. For men in the highest PRS decile versus women in the lowest PRS decile, risk-adapted starting ages of screening would vary by 24 years. Regarding CRC mortality, results were similar.

"The RAP approach could be easily extended to incorporate additional risk factor information," the authors write. "Further research should assess the feasibility, acceptance, and cost-effectiveness of the use of this approach."

More information: Xuechen Chen et al, Personalized Initial Screening Age for Colorectal Cancer in Individuals at Average Risk, *JAMA Network Open* (2023). DOI: 10.1001/jamanetworkopen.2023.39670

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