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INVITED COMMENTARY

Male Health

Sexual dysfunction and prostate cancer risk: one more piece of a complex puzzle

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In an era of personalized medicine where genetic, environmental, and biometric factors are considered as a whole throughout the diagnostic and therapeutic approach to a disease, the association between several clinical factors and prostate cancer risk (PCa) has been thoroughly investigated. In the study of Zapata *et al.*,[1] the sexual function of patients with a suspicion of harboring PCa has been correlated to the actual diagnosis of the disease itself. In a relatively small cohort of 448 patients, the authors showed a significant association between a worse overall sexual functioning and the evidence of PCa at TRUS random biopsies; indeed, by rigorously assessing sexual function with the modified Expanded Prostate Cancer Index Composite (EPIC), they observed a 9% reduction of overall PCa risk for each 10-point higher score at EPIC.[1] Their interest was driven by the evidence of a real-life high prevalence of both conditions (e.g., PCa and sexual dysfunction [SDs]) in the older population. However, when dealing with the association between the two variables, the temporal relationship represents only one of the numerous aspects which should be considered before it is possible to support a significant correlation, and even more a causative effect among the involved factors.[2] Indeed, from a merely scientific perspective, this suggested correlation should be corroborated also by the strength of the association (this meaning, in terms of statistical power and significance), by a demonstrated dose–response effect, along with a decreasing risk with the cessation of the involved factor, as well as by the replicability of findings and by a biological plausibility.[2] Given all these former considerations, we could argue that those findings may eventually be nothing more than the expression of a simple coexistence of two different conditions over the same age interval.

Throughout the last two decades, erectile dysfunction (ED) has been associated to several pathological conditions, gaining major relevance in the cardiovascular (CV) field.[3] The "artery-sized" hypothesis, for instance, clearly highlighted a potential pathophysiological link between impaired erectile functioning (EF) and coronary artery disease, ascribing ED as prodromal to life-risky events.[4] Likewise, an impaired EF has been correlated to an overall higher systemic level of inflammatory factors and to a premetabolic disorder, thus corroborating several evidences of a significantly higher prevalence of metabolic syndrome, diabetes mellitus, and endocrine and respiratory disorders in men with ED.[5] From a wider perspective, an inverse relationship between EF and the overall burden of comorbidities has been suggested,[6] thus highlighting the importance of an overall clinical assessment for patients complaining of sexual disorders. In this context, the findings of Zapata *et al.*,[1] suggesting a quite new correlation between sexual functioning and cancer, certainly deserve further investigation. Indeed, as a case–control study, these findings could be hampered by several recall and selection biases, and above all, the inclusion of a "preselected" population of patients submitted to prostate biopsy according to clinical parameters (e.g., PSA and clinical stage). To this regard, a preconditioning status related to the suspicion of having a cancer which may be *per se* causative of a psychogenic sexual function impairment should be certainly considered. Moreover, as stated by the Authors, the lack of any hormonal profile assessment could have undervalued the significance of these findings because of the impact of the hormonal milieu in the pathogenesis of both conditions, and mainly for those individuals with a high-risk PCa.

Overall, despite these data do allow to draw a final conclusion neither on the potential correlation between SDs and PCa risk nor on the biological reason behind this association, it has eventually added a further piece of science to the theory of sexual function as a proxy of general health status in men, serving as a sentinel marker for several comorbid conditions, finally supporting the importance of a careful clinical assessment of patients complaining for SDs in the real-life scenario.

COMPETING INTERESTS

All authors declare no competing interests.

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