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TITOLO

Beyond Reproduction: Male Infertility as a Sentinel Marker of Men's Health

AUTORI

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INTRODUCTION

Growing evidence has recently highlighted male infertility as a potential marker of overall systemic health. A consistent body of literature suggests an association between impaired semen parameters and increased cardiometabolic risk, metabolic syndrome, insulin resistance and diabetes. Moreover, male infertility has been linked to a higher incidence of certain malignancies, such as testicular and prostate cancer, and psychological burden (anxiety, depression, reduced quality of life). The aim of this study is to assess the overall health status of patients attending the Assisted Reproduction Urology Clinic of Careggi University Hospital and to compare it with that of the general Italian population.

MATERIALS AND METHODS

We analysed data about overall health status of 88 azoospermic patients (aged between 31 and 49 years, mean age 38 years) referring to the assisted reproduction Urology Clinic of Careggi University Hospital. These patients underwent Testicular Sperm Extraction (TESE) or Testicular Fine Needle Aspiration (TEFNA) between 2018 and 2025. Patients' comorbidities were assessed, including developmental anomalies, oncological diseases, and chronic conditions requiring long-term pharmacological treatment. We analysed the shape of the empirical probability distribution of the comorbidity variable. We then compared our data to Italian epidemiological data (National Institute of Health – ISS, Epicentro, PASSI surveillance system).

RESULTS

Patients' comorbidities mainly consisted of hypercholesterolemia, hypertension, hypothyroidism, diabetes mellitus, asthma, and other allergic disorders. The empirical distribution was examined and distributional homogeneity was assessed by calculating the Gini index (0.49). It emerged that our study cohort had a significantly higher probability of presenting with at least one chronic condition (46% vs. 12.4%) and with multiple chronic conditions (15% vs. 1.9%) compared to the general Italian population in the 2023–2024 period.

CONCLUSIONS

This result supports the interpretation of male infertility as a potential marker of impaired general health, highlighting the need for a comprehensive and multidisciplinary approach to the evaluation of the infertile male, moving beyond an exclusively reproductive perspective. It also underscores the need for long-term follow-up aimed at assessing the overall health of infertile men, in addition to hormonal profiles and oncological risk.

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