Incidence and Mortality Trends of Male Reproductive System Cancers in Sri Lanka: A Population-Based Study

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Male reproductive system cancers including prostate, testicular and penile cancers, contribute significantly to the global cancer burden. Among these, Prostate cancer (PC) is the most commonly diagnosed malignancy and the fifth leading cause of cancer-related mortality among men worldwide. In Sri Lanka, data on long-term trends of male reproductive system cancers remain limited. Therefore, this study aimed to describe the incidence and patterns of these cancers. The data were extracted from the Cancer Incidence and Mortality Database of Sri Lanka (Sri Lanka Cancer Registry) maintained by the National Cancer Control Programme (NCCP), Ministry of Health, Sri Lanka, from 2005 to 2022. Male reproductive system cancers were defined using ICD-10 classification and categorized into penile (C60), prostate (C61), testicular (C62) and other male genital organ cancers (C63). These data were used to estimate the incidence rates, including crude incidence rate (CR) and age-standardized incidence rate (ASIR). Trends in the ASIR, Annual Percentage Change (APC), and Average Annual Percentage Change (AAPC) were assessed using join-point regression. According to the data, male reproductive system cancers demonstrated a changing pattern over time. Between 2005 and 2022, a total of 16,930 cases were recorded with an AAPC of 8.19%. PC accounted for the majority of cases (n=13,849) followed by penile (n=1807), testicular (n=1133) and other genital cancers (n=141). Prevalence of cancers in the prostate, testis, penis, and other genital organs increased from 7.16% in 2005 to 8.62% in 2022. ASIR for prostate cancer increased markedly from 3.5 in 2005 to 11.1 per 100,000 in 2022, with an AAPC of 8.08%. Moreover, the AAPC for testicular cancers, penile cancers, and other genital cancers were 3.82%, 1.09%, and 5.71% respectively. Age-Standardized Mortality Rate (ASMR) for PC in Sri Lanka increased from 1.0 in 2005 to 3.26 per 100,000 in 2021 (AAPC = 6.21%). These findings highlight a growing burden of prostate cancer and other genital cancers in Sri Lanka, emphasizing the need for enhanced early detection, targeted screening, and effective management strategies to reduce morbidity and mortality.

Keywords: prostate cancer, male reproductive system cancers, cancer incidence, Sri Lanka, age-standardized rate