Genitourinary Malignancy in Canadian Indigenous Populations

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Sowing the Seeds of Health Care Disparity

Universal access to health care is a foundational principle in Canadian health care as set out by the Canada Health Act. As with many Indigenous groups around the world, Canadian Indigenous communities (First Nations, Métis, and Inuit) have faced disparities in health care. The cause of these disparities is multifactorial.

In Canada, the Indian Act of 1876 enacted many colonial laws aimed at eliminating Indigenous culture and assimilating Indigenous people into a European-based Canadian society. This permitted the development of residential schools and allowed Indigenous populations to be moved onto reserve lands. In 1895 the Indian Act was amended to make any Indigenous festival, dance, or ceremony illegal, despite these acts playing a fundamental role in the healing practices of many Indigenous people. These policies have led to a long history of mistrust between Indigenous populations and the Canadian government. With government-funded health care and generations of negative experiences associated with Canadian western health care, many disparities have arisen that limit Indigenous health outcomes and access to health care services.

Genitourinary Malignancy in Canadian Indigenous Peoples

Cancer is among the leading causes of death in Indigenous people[1]. Canadian Indigenous people have a higher incidence of several cancers, including colorectal and kidney cancer, and a lower incidence of others, including prostate, breast, and bladder cancer[2,3]. With several genitourinary cancers, the 5-year survival rate is worse in Indigenous people than in their non-Indigenous peers[4].

A paucity of data exists regarding genitourinary malignancies in Canadian Indigenous populations. A Health Report published in 2021 looking at the incidence and mortality of cancer in First Nations people in Ontario between 1991 and 2010 provides the best estimate of cancer burden in Canadian Indigenous populations[5].

Kidney Cancer

An elevated incidence of kidney cancer has been reported in First Nations females living in British Columbia[2], and males and females living on reserves or northern cities in Quebec[6]. In the Ontario cohort, kidney cancer was the fifth most diagnosed cancer in First Nations people, yet only the 12th most common in the general population. Kidney cancer was identified as having significantly higher relative risk in First Nations males and females in all age groups compared with the rest of the population. Kidney cancer rates in First Nations females also increased over time relative to other females in Ontario. This may relate to a higher prevalence of risk factors (eg, smoking and obesity) within these populations[7]. Mortality rates from kidney cancer were significantly elevated in all ages.

Key Words

Genitourinary malignancy, Indigenous health, cancer, Canadian First Nations, urology

Competing Interests

None declared.

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Prostate Cancer

In the Ontario study, prostate cancer rates were unchanged in First Nations males from 1991 to 2010, despite an increased incidence in males in the general population[5], suggesting that First Nations populations did not follow the worldwide trend of overdiagnosis associated with widespread implementation of PSA screening during the early 1990s. This may reflect access to and utilization of cancer screening protocols. This discrepancy was confirmed in the First Nations Regional Health Survey (2009) that showed that only 23.4% of First Nations men over 18 have ever had a screening digital rectal examination or serum PSA test[8]. The national estimates suggest that 35% to 75% of males over 50 years of age have had at least one PSA test. This number seems profound but may be biased by the discrepant age ranges included in both populations[9].

Prostate cancer incidence was significantly lower in First Nations males compared to the general population[5], yet Withrow et al. showed a significant excess mortality rate ratio (EMRR) between 1992 and 2000 in Canadian First Nations men with prostate cancer (EMRR 2.76; 95% CI 1.81 to 4.21)[4]. Concurrently, prostate cancer rates were found to be lower in the Quebec reservation cohort[6].

Other Genitourinary Malignancies

First Nations males had significantly lower rates of bladder cancer compared with the general population (rate ratio of 0.47 [95% CI 0.36 to 0.61]). The trend in First Nations females was similar but less pronounced (rate ratio of 0.73 [95% CI 0.50 to 1.01]). Rates of testis cancer did not differ significantly from the rates in the general population (rate ratio of 0.76 [95% CI 0.57 to 1.00]), and rates of penile malignancy were not reported in the Ontario study results[5].

Putting the Numbers into Context

Differences have been shown in cancer rates and outcomes between Canadian First Nations people and the general population. While biological factors and variable exposure to risk factors are important, social determinants of health are likely most critical. These include historical trauma, poor access to health care, poor education, marginalization, and lower socioeconomic status[5].

Jamal et al. suggested working towards “equitable access to a conducively built environment, affordable healthy foods, and a culturally safe and respectful health system” for Indigenous people to help address discrepant medical experiences related to cancer diagnosis and treatment[5]. This sense of safety may be especially important relating to genitourinary cancers, as many clinical scenarios can include sensitive or uncomfortable examinations such as cystoscopy, genital examination, or digital rectal examinations.

Education and screening programs have yielded promising results in other body systems. Lung and cervical cancer rates have fallen, which may be related to programs to reduce smoking and encourage cervical cancer screening in First Nations communities[7]. Similar programs may be beneficial for genitourinary malignancies.

The Canadian health care system divides responsibilities between federal, provincial, and territorial governments. The federal government has taken steps to work alongside Indigenous populations, instituting independent programming such as Indigenous Services Canada, which provides independent funding and health care services to First Nations, Inuit, and Métis communities. Multiple policies also exist at the provincial level, where legislation “recognizes the values and role of Indigenous groups in the planning and delivery of health services in their communities.” Some provinces have supported Indigenous-led organizations to oversee delivery of health care in a culturally safe and appropriate fashion[10].

Finally, Canadian medical schools now set aside designated seats for students with Indigenous heritage. This is an excellent step towards encouraging Indigenous representation within the Canadian medical community and bridging the gap between traditional and modern healing practices.

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