



12 Cancer

Chapter Summary

Cancerous tumours result when genes that regulate cell division have damaged DNA, as a result of multiple gene mutations, leading to uncontrolled cell proliferation. Treatment for cancer includes surgery, radiation therapy, chemotherapy, hormonal therapy, and bone marrow transplant. Over the past 30 years, the number of new cases diagnosed, and cancer-related deaths have increased, mainly due to the growth of the aging population. However, incidence rates are becoming stable or increasing only modestly, and mortality rates are decreasing, suggesting that survival rates are improving for some cancers.

Risk for cancer involves the interaction of biological, environmental, behavioural, and demographic factors. While the evidence linking psychosocial factors to cancer initiation has been ambiguous, the evidence linking psychosocial factors such as depression, stressful life events, and social isolation to cancer progression and mortality is somewhat stronger. Potential mechanisms include behavioural factors, such as adherence to treatment, and physiological factors, such as elevated stress hormones and immunosuppression. Primary prevention measures, like avoiding smoking, can reduce but not entirely eliminate the risk of developing cancer. Cancer screening (e.g., mammography) is a secondary prevention measure designed to detect cancer at an early stage, before symptoms have developed—however, screening has both benefits and harms. Genetic testing for mutations is now an option where individuals testing positive can choose to have preventative surgery to reduce the risk of developing specific cancers, such as breast or ovarian cancer.

Cancer diagnosis and treatment can change interpersonal relationships and social roles. It also has physical effects and can cause uncertainty, body image anxiety, and stress. Targeting coping strategies appropriately, appraising threats as challenges, maintaining optimism, and benefiting from interpersonal support are related to psychological adjustment and well-being.

Essay Topics

1. What behavioural changes can be made to help reduce one's risk of developing cancer? Compare these changes to secondary prevention measures, such as screening. (pp. 266, 272)
2. What kind of changes can a cancer diagnosis and treatment make in a patient's life? Be sure to consider social and physical effects. (pp. 273–275)
3. How do cancer incidence and mortality rates differ among nationalities? (pp. 268–269)
4. Explain the role psychosocial factors play in relation to cancer incidence and progression. (p. 270)

Weblinks

<http://www.cancer.ca>

The Canadian Cancer Society provides a wide variety of information about cancer progression, services, prevention, and related topics, as well as links to other websites and resources.

<http://www.cancer.org>

The American Cancer Society provides information about cancer for patients, families, survivors, and professionals. The website includes links to news and information about research, cancer statistics, and additional resources.

<http://www.hc-sc.gc.ca/hc-ps/dc-ma/cancer-eng.php>

This page of the Health Canada website provides information about types of cancer and risk factors, as well as research and statistics.

<https://www.youtube.com/watch?v=46Xh7OFkkCE>

This video describes how cancer develops and spreads.

Glossary

Breast-conserving surgery Surgical treatment for breast cancer that removes the cancerous tumour along with a margin of normal tissue. Accompanying radiation therapy over several weeks is often used to eliminate any remaining cancer cells.

Carcinogen An environmental factor that increases the risk of developing cancer.

Genetic counsellor A professional (usually with a Master of Science degree) certified to provide information on hereditary conditions, their health and familial implications, preventive options and management, and possible genetic testing to determine mutation carrier status. Genetic counsellors are experts in educating patients and translating complex medical information.

Immunosurveillance The immune system's detection and destruction of cancerous cells.

Lymphedema Buildup of lymphatic fluid in a limb, often as a result of surgery or radiation treatment; a chronic and progressive problem resulting in swelling, aching, pain, and hardening of tissue.

Mastectomy Surgical treatment for breast cancer that removes the entire breast.

Metastasis The ability of malignant neoplasm cells to spread to distant parts of the body and grow at those sites.

Overdiagnosis (in the context of cancer) The detection and diagnosis, for example, of a tumour that will not become malignant or is slow growing enough that it is unlikely to be the cause of death.

Patient navigator Lay person or health-care professional who assists patients at all stages of cancer care. While first conceived as a role to help under-served patients obtain early diagnosis and treatment, navigators now guide patients through coping with diagnosis, treatment, and making the transition to survivorship.