1 Introduction

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Cancer is one of the major health hazards in the world. In contrast to the situation a few decades ago, the majority of the global cancer burden now occurs in medium- and low-income countries. Assuming an annual increase in cancer incidence and mortality of 1%, by 2030 there could be 26.4 million new patients with cancer, 17.1 million annual cancer deaths, and 80 million persons alive with cancer within five years of diagnosis.

The estimated costs of cancer diagnosis and treatment are important; they were 209.9 billion US$ in the U.S.A. in 2005 and 14.2 billion US$ or 9% of all disease costs in Canada in 1998; and cancer hospitalizations accounted for 6.2 billion US$ in France in 1999. The World Bank estimates that tobacco-related health care, of which cancer is an important proportion, accounts for between 6% and 15% of all annual health care costs and up to 1.1% of gross domestic product in high-income countries. Also, the costs of health care are increasing rapidly due to the introduction of new diagnostic techniques and treatments, limiting the resources for cancer diagnosis and treatment even more. Therefore, it is important that the available funding is used in an optimal way to ensure the continuity of adequate cancer diagnosis and treatment.

Diagnosis should identify the presence of cancer, mostly by pathological or cytological examination, and the extent of the disease by staging. Several staging examinations are available, but only those that are relevant should be employed. Also, new techniques should be evaluated in randomized clinical trials before they enter daily clinical practice.

Results from pathology and staging examinations, together with patient-related factors, can determine the prognosis. Combined with society-related factors, these examination results play an important role in determining optimal treatment.

Several predictive factors that can indicate response to a specific treatment have been determined and can be used to direct treatment choices. When opting for a specific treatment, adequate treatment evaluation and prevention of acute and late toxicity should be taken into account to preserve the quality of life of cancer survivors.

Revalidation and reintegration in society should be envisaged after diagnosis and treatment of cancer.

This handbook describes and discusses cancer diagnosis and treatment evaluation.

Further reading

http://www.who.int/cancer/en. World Health Organization. Cancer.

2006 World Cancer Declaration. Call to Action. UICC World Cancer Congress, July 8–12, 2006, Washington, D.C., U.S.A.