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PROJECT

Why me? The Causes of Human Cancer

More than 90 compounds, occupational exposures, and infectious agents have been identified as human carcinogens and an additional 250 are considered to be probably carcinogenic to humans. However, this information is of limited use to cancer patients, their families, and friends. Increasingly, patients ask: Why me? Oncologists usually cannot cope with this demand as they concentrate on diagnosis and treatment. The project I wish to pursue at the Wissenschaftskolleg is a book that answers such questions. It will be designed to address not only the medical and public health communities but also the general public. It will be based on epidemiological evidence and laboratory research, including the cancer risk assessments by the US Environmental Protection Agency (EPA) and the Monographs Program of the International Agency for Research on Cancer (IARC). Whenever possible, an estimation of the attributable risk, i. e., the percentage of neoplasms caused by specific lifestyles and exposures, will be included. In addition to environmental factors, the estimated lifetime risks of cancer development in individuals with inherited cancer susceptibility will be added. Sections on major tumor types may include case histories and tales of the personal experience of cancer victims.

Recommended Reading

Stewart, Bernard W. and Paul Kleihues, eds. World Cancer Report. IARC Press: Lyon, 2003.

Poverty, Affluence, and the Global Burden of Cancer

Worldwide, approximately 11 Million people develop a malignant tumour each year and almost 7 Million die of the disease. During the next 20 years, this number is expected to increase by at least 50%, due to higher life expectancy and the acquisition of unhealthy lifestyle habits, particularly in Asia and Africa.

Developing countries have a high proportion (>20%) of cancers caused by chronic infections, e.g. hepatitis viruses, papilloma viruses, helicobacter pylori. However, the incidence rate of all neoplasms combined is less than half of that of countries with high socio-economic status. The greater tumour burden of affluent societies is largely due to three factors: the earlier exposure to occupational carcinogens, the earlier onset of the tobacco epidemic, and the Western lifestyle.

Tobacco smoking remains the most important avoidable cancer risk and is in Western countries responsible for about one third of all cancer deaths. The Western lifestyle, characterized by a highly caloric diet and reduced physical activity, has long been underestimated as risk factor, but is now held responsible for more than 30% of tumours in regions with a high living standard (USA, Canada, Western Europe, Australia). It is associated, among others, with breast, colon and prostate cancer.

In North America and some European countries, the overall cancer mortality has begun to decline since approximately 10 years. This trend should be accelerated by a reduction of tobacco consumption, avoidance of other carcinogenic exposures, healthy diet and exercise, vaccination against cancer causing viral infections, screening programs for early detection and progress in cancer therapy.

PUBLICATIONS FROM THE FELLOWS' LIBRARY

Kleihues, Paul (Lyon,2003)

World cancer report

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