Time course of risk factors in cancer etiology and progression.

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Abstract
Patients with cancer increasingly ask what they can do to change their lifestyles and improve outcomes. Risk factors for onset of cancer may differ substantially from those that modify survival with implications for counseling. This review focuses on recent data derived from population-based studies of causes of cancer and of patients with cancer to contrast risk factors for etiology with those that impact survival. For different cancer sites, the level of information to inform the timing of lifestyle exposures and risk of disease onset or progression after diagnosis is often limited. For breast cancer, timing of some exposures, such as radiation, is particularly important. For other exposures, such as physical activity, higher levels may prevent onset and also improve survival. For colon cancer, study of precursor polyps has provided additional insight to timing. Extensive data indicate that physical activity reduces risk of colon cancer, and more limited data suggest that exposure after diagnosis improves survival. Dietary factors including folate and calcium may also reduce risk of onset. More limited data on prostate cancer point to obesity increasing risk of aggressive or advanced disease. Timing of change in lifestyle for change in risk of onset and for survival is important but understudied among patients with cancer. Counseling patients with cancer to increase physical activity and avoid weight gain may improve outcomes. Advice to family members on lifestyle may become increasingly important for breast and other cancers where family history is a strong risk factor.

PMID: 20644083 [PubMed - indexed for MEDLINE]