

**Solid Organ Cancers Frequently Precede or Co-Occur in
Hodgkin Lymphoma of the Elderly**

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Background: Solid organ cancers including lung cancer and breast cancer represent well established late complications in patients treated for aggressive lymphoma including Hodgkin lymphoma. This has been linked to the intensity of radiation and chemotherapy. The inverse, the development of hematolymphoid neoplasia secondary to solid organ cancer, either due to common risk factors, tumor associated immunomodulation or tumor therapy has not been analysed systematically.

Design: We analysed the data set of hematolymphoid neoplasia registered from 1980 to 2005 in the Cancer Registry of the Canton of Zurich, Switzerland for solid neoplasms diagnosed before the hematolymphoid neoplasia. Age specific rates for previous solid neoplasia were generated for each hematolymphoid neoplasia type and compared to rates of the entire patient cohort.

Results: 12857 cases of hematolymphoid neoplasia included 2446 cases with associated solid neoplasia. Age specific and lymphoma specific analyses showed Hodgkin lymphoma of the elderly preceded by solid organ neoplasia up to three times more often than in other hematolymphoid neoplasia. This increase was most significant for breast cancer and lung cancer and less so in prostate and colorectal cancer.

Conclusions: Solid organ cancer represents a risk factor for the development of Hodgkin lymphoma. In solid organ tumor patients, enlarged lymph nodes should therefore include the differential diagnosis of Hodgkin lymphoma. Conversely, in elderly Hodgkin lymphoma patients, the detection of visceral non lymphoid organ manifestations should include the differential diagnosis of solid organ cancer.