

Research Article

Impact of Histopathological Diagnosis with Ancillary Immunohistochemical Studies on Lung Cancer Subtypes Incidence and Survival: A Population-Based Study

Bordoni Andrea,¹ Bongiovanni Massimo,² Mazzucchelli Luca,² and Spitale Alessandra¹

¹ Ticino Cancer Registry, Institute of Pathology, 6600 Locarno, Switzerland

² Division of Clinical Pathology, Institute of Pathology, 6600 Locarno, Switzerland

Correspondence should be addressed to Bordoni Andrea, andrea.bordoni@ti.ch

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Purpose. The aim of this study was to assess the impact of immunohistochemical- (IHC-) studies on incidence and survival of lung cancer histotypes. *Patients and Methods.* Lung cancers occurred in southern Switzerland between 1996 and 2010 were selected by the Ticino Cancer Registry and categorised into adenocarcinoma (AC), squamous-cell-carcinoma (SqCC), small-cell-carcinoma (SmCC), and large-cell carcinoma/non-small-cell lung cancer (LCC/NSCLC). Incidence rates, annual-percentage-change (APC), and two-year overall survival (OS) (follow-up: 31.12.2010) were performed. *Results.* 2467 cases were selected: 997 (40.4%) AC; 522 (21.2%) LCC/NSCLC, 378 (15.3%) SmCC, and 570 (23.1%) SqCC. Trend-analysis showed significant increase in AC (APC: 4.6; 95% CI: 3.1; 6.0) and decrease of LCC/NSCLC, with significant joinpoint in 2003 (APC: -14.7; 95% CI: -21.6; -7.1). Improved OS and decreased OS were detected in SqCC and LCC/NSCLC, respectively. *Conclusions.* This study highlights that diagnosis with ancillary immunohistochemical studies will change incidence and survival of precisely defined lung cancer subtypes. It calls attention to the need for cautious interpretation of studies and clinical trials, where the diagnosis was based on histology unaccompanied by IHC studies, and to the need of standardised diagnostic procedures.