

**Non-small cell lung cancer in the young: a retrospective analysis of diagnosis, management and outcome data.**

[Mauri D](#), [Pentheroudakis G](#), [Bafaloukos D](#), [Pectasides D](#), [Samantas E](#), [Efstathiou E](#), [Kalofonos HP](#), [Syrigos K](#), [Klouvas G](#), [Papakostas P](#), [Kosmidis P](#), [Fountzilas G](#), [Pavlidis N](#); [Hellenic Cooperative Oncologic Group \(HeCOG\)](#).

**Source**

Hellenic Cooperative Oncologic Group (HeCOG), Greece.

**Abstract**

**BACKGROUND:**

Non-small cell lung cancer (NSCLC) in young patients is uncommon and is thought to constitute a distinct oncological entity with characteristic clinicopathological patterns. Since the reported data are scant and discordant, the presentation, management and outcome data of NSCLC patients aged under 45 years of age were analyzed and compared with those of patients over 45 years old. Prognostic factors for risk classification were also evaluated.

**MATERIALS AND METHODS:**

The data were abstracted from the Hellenic Cooperative Oncology Group (HeCOG) cancer registry database. The presentation, management and outcome data of patients with histologically confirmed NSCLC, managed from 1989 until 2004 in HeCOG participating centers, were retrospectively analyzed. The clinicopathological characteristics of patients aged < and > than 45 years old were compared and evaluated for prognostic significance regarding outcome.

**RESULTS:**

The data for NSCLC patients (1906), of whom 115 were aged <45, were retrieved. In comparative analysis, the young patients were more frequently asymptomatic at diagnosis, while older patients presented significantly higher rates of thoracic pain, cough and fatigue ( $p < 0.01$ ). The young patients were more commonly diagnosed with adenocarcinoma and less frequently with squamous cancer than patients aged over 45. Although the stage distribution was distinct, with older patients presenting higher rates of stage IV disease (21.9% vs. 12.2%), the rates of early lung cancer (stages I-IIIa) were similar. The overall survival (OS) was not significantly different (median OS 12 vs. 11.5 months,  $p = 0.277$ ). Among patients who underwent first-line palliative chemotherapy, young individuals had a significantly shorter time to progression: 4.3 vs. 5.8 months ( $p = 0.0049$ ). Univariate and multivariate regression analyses established the prognostic usefulness of the performance status, disease stage and disease-free interval for the risk of death, both in the total number of patients (1906) and in young patients (115).

**CONCLUSION:**

This large retrospective series failed to present strong evidence that NSCLC among young individuals constitutes a distinct clinicopathological entity with differing biological behavior, since the same clinicopathological prognostic factors were valid in both age groups. Molecular phenotypic studies are needed to shed light on this controversial subject.