# Characteristics and long-term outcomes of advanced pleural mesothelioma in Latin America (MeSO-CLICaP).

Rojas L, Cardona AF, Trejo-Rosales R, Zatarain-Barrón ZL, Ramírez-Tirado LA, Ruiz-Patiño A, Campos Gómez S, Corrales L, Oblitas G, Bacon L, Martín C, de Lima VCC, Freitas HC, Mas L, Vargas C, Carranza H, Otero J, Pérez MA, González L, Chirinos L, Granados ST, Rodriguez J, Báez R, Remolina Bonilla YA, Núñez Cerrillo G, Archila P, Cuello M, Karachaliou N, Rosell R, Arrieta O; on behalf CLICaP.

Thorac Cancer. 2019 Mar;10(3):508-518.

Abstract

BACKGROUND: Malignant pleural mesothelioma (MPM) is an aggressive tumor, associated with poor prognosis. There is a lack of information about the clinical and pathological features related with survival in the Latin American population. METHODS: The MeSO-CLICaP registry identified 302 patients with advanced MPM diagnosed and treated between January 2008 and March 2016. The Cox model was applied to determine the variables associated with survival. A random forest tree model was built to predict the response to first-line chemotherapy among Latin American patients. RESULTS: The median age was 61.1 years (SD 10.6 years), 191 (63.2%) were men, 65.9% were ever smokers, and 38.7% had previous exposure to asbestos. A total of 237 (78.5%) had epithelioid tumors, and 188 (62.3%) and 114 (37.7%) cases had stage III or IV MPM, respectively. A total of 49 patients (16.2%) underwent pleurectomy, 57 (18.9%) received radiotherapy, and 279 patients received first-line platinum-based chemotherapy. The overall response rate to first-line chemotherapy was 40.4%, progression-free survival to first-line treatment was 5.7 months (95% CI 4.9-6.5), and 63 (20.8%) patients had pemetrexed maintenance. The median overall survival was 16.8 months (95% CI 13.0-20.5), and multivariate analysis found that stage ($P = 0.013$), and pleurodesis ($P = 0.048$), were independent prognostic factors for first-line overall survival. The model to predict response to first-line chemotherapy obtained a 0.98 area under the curve, a sensitivity of 93%, and a specificity of 95% for detecting responders and non-responders. CONCLUSION: This study identifies factors associated with clinical benefit from chemotherapy among advanced MPM Latin American patients, emphasizing the impact of histology and the clinical benefit of chemotherapy on outcomes.

# ALK rearrangements: Biology, detection and opportunities of therapy in non-small cell lung cancer.

Rosas G, Ruiz R, Araujo JM, Pinto JA, Mas L.

Crit Rev Oncol Hematol. 2019 Apr;136:48-55.

Abstract

The ALK receptor tyrosine kinase (ALK) gene encodes a transmembrane protein rearranged in 2-7% of non-small cell lung cancer (NSCLC) cases. This gene has become the second most studied therapeutic target after EGFR due to the implied therapeutic opportunities. While the diagnostic of ALK rearrangements is well established, small molecules targeting ALK are in constant evolution because tumor cells eventually will develop mechanisms of resistance. In this review we describe the biology of the ALK gene, alterations, epidemiology, diagnostic tests as well as strategies of treatment.

# Lung Cancer in the Young.

Galvez-Nino M, Ruiz R, Pinto JA, Roque K, Mantilla R, Raez LE, Mas L.

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Abstract

INTRODUCTION: Median age at diagnosis of lung cancer is 70 years. Its presentation in patients 40 or younger is uncommon and it has been proposed that maybe it is a different disease due to its clinical characteristics and genetic makeup. There are a limited number of studies in this population and they report different clinic-pathological characteristics in comparison with older patients. METHODS: We described the incidence of lung cancer patients diagnosed at age 40 or younger at the Instituto Nacional de Enfermedades Neoplasicas (INEN), Lima-Peru; from 2009 to 2017 and evaluated the characteristic of NSCLC. Epidemiologic and clinic-pathological data was collected from clinical files. Analysis was carried out using SPSSvs19 software. RESULTS: We identified 3823 patients with lung cancer seen at INEN during the study period. Among these, 166 (4.3%) patients were 40 years or younger, and 137/166 (82.5%) were NSCLC. Median age at diagnosis was 36 years (range 14-40 years) and 59.1% of patients were female. A smoking history was present in 14.4% of patients. Frequent symptoms at diagnosis were cough (62.0%), chest pain (51.8%) and dyspnea (40.9%). Adenocarcinoma was the most common histological type (63.3%). Most patients had advanced disease at diagnosis (84.7%). The median overall survival was 8.2 months. CONCLUSIONS: The proportion of young patients with lung cancer in our population is higher than that reported in the most recent literature. Lung cancer in the young is mostly sporadic, more frequent in women, usually adenocarcinoma type and it presents with advanced disease, resulting in a very poor survival.

# Immunotherapy at any line of treatment improves survival in patients with advanced metastatic non-small cell lung cancer (NSCLC) compared with chemotherapy (Quijote-CLICaP).

Ruiz-Patiño A, Arrieta O, Cardona AF, Martín C, Raez LE, Zatarain-Barrón ZL, Barrón F, Ricaurte L, Bravo-Garzón MA, Mas L, Corrales L, Rojas L, Lupinacci L, Perazzo F, Bas C, Carranza O, Puparelli C, Rizzo M, Ruiz R, Rolfo C, Archila P, Rodríguez J, Sotelo C, Vargas C, Carranza H, Otero J, Pino LE, Ortíz C, Laguado P, Rosell R, CLICaP.

Thorac Cancer. 2019 Dec 12.

Abstract

BACKGROUND: To compare survival outcomes of patients with advanced or metastatic non-small cell lung cancer (NSCLC) who received immunotherapy as first-, second- or beyond line, versus matched patients receiving standard chemotherapy with special characterization of hyperprogressors. METHODS: A retrospective cohort study of 296 patients with unresectable/metastatic NSCLC treated with either, first-, second-, third- or fourth-line of immunotherapy was conducted. A matched comparison with a historical cohort of first-line chemotherapy and a random forest tree analysis to characterize hyperprogressors was conducted. RESULTS: Median age was 64years (range 34-90), 40.2% of patients were female. A total of 91.2% of patients had an Eastern Cooperative Oncology Group (ECOG) performance score≤1. Immunotherapy as first-line was given to 39 patients (13.7%), second-line to 140 (48.8%), and as third-line and beyond to 108 (37.6%). Median overall survival was 12.7 months (95% CI 9.67-14 months) and progression-free survival (PFS) of 4.27months (95% CI 3.97-5.0). Factors associated with increased survival included treatment with immunotherapy as first-line (P<0.001), type of response (P<0.001) and PD-L1 status (P = 0.0039). Compared with the historical cohort, immunotherapy proved to be superior in terms of OS (P = 0.05) but not PFS (P = 0.2). A total of 44 hyperprogressors were documented (19.8%, [95% CI 14.5-25.1%]). Leukocyte count over 5.300cells/dL was present in both hyperprogressors and long-term responders. CONCLUSIONS: Patients who receive immune-checkpoint inhibitors as part of their treatment for NSCLC have better overall survival (OS) compared with matched patients treated with standard chemotherapy, regardless of the line of treatment.