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Background: Even though lung cancer remains a disease of the older population with a median age of 70 years, still a proportion of patients are diagnosed at 40 years or younger. In several studies, patients diagnosed with primary lung cancer under the age of 40 tend to be never-smokers, are stage IV adenocarcinoma, and tend to have somatic genomic alterations such as an epidermal growth factor receptor (EGFR) activating mutation or a EML4-alk translocation. Therefore, it is crucial to determine the epidemiological characteristics of lung cancer patients under diagnosed under the age of 40. Few studies have documented and analyzed this characteristics. Our study groups the largest population of patients less than 40 years old diagnosed with NSCLC.

Method: In this epidemiological retrospective study, a total of 247 patients (Argentina=6, Canada=19, Colombia= 29, Costa Rica=9, Mexico=89, Panama=19, and Peru=76) with a histological confirmed non-small cell lung cancer aged 40 years or less at diagnosis were included for analysis. Data collected included age, gender, histology, stage, EGFR and ALK mutation analysis, and date of death or last follow-up. Progression free survival (PFS) and overall survival (OS) were also recorded.

Results: NSCLC patients aged 40 years or less accounted around a 4% of the total NSCLC population. The median age was 34.5 years (range 14-40), 111 (45%) were men, 136 (55%) were women, and 190 patients (76.9%) were non-smokers. Adenocarcinoma was the most frequent histological subtype with 201 patients (81.4%), 24

patients (9.7%) were squamous and 22 patients (8.9%) had another histologic subtype. 213 patients (86.2%) were stage IV at diagnosis while 22 patients (8.9%) were stage III. The site(s) of metastasis was obtained in 202 of 213 stage IV patients where 39.6% (n=80) had lung metastasis, 35.6% (n=72) had SNC metastasis, and 31.7% (n=64) had bone metastasis. EGFR mutation (EGFRm) analysis was determined in 102 patients with 39 patients (38.2%) having an EGFRm. EML4-alk analysis was determined in 164 patients with 11 patients having a positive translocation (6.7%). The OS for the total population was 14.4 months (95%CI=11.2-17.6) and the PFS was 5.7 months (95%CI=4.9-6.5), and there was no statistical significant difference according to histological subtype. According to EGFR, OS for EGFRm(+) was 42 months (95%CI=30.8-54.0) and for EGFRm (-) was 19.4 months (95%CI=14.8-24.0) (p=0.002); PFS for EGFRm(+) was 11.9 months (95%CI=6.3-17.5) and for EGFRm (-) was 7.1 months (95%CI=5.3-8.9) (p=0.005). Regarding EML4-alk translocation, OS for alk(+) was 28.0 months (95%CI=15.4-40.6) and for alk(-) was 10.6 months (95%CI=6.9-14.3) (p=0.065).

Conclusion: NSCLC patients aged 40 years or younger constitute a small but important proportion of patients with this diagnosis. Other risk factors may be involved in the pathogenesis of the disease in this population due to a low smoking history of these patients. SNC metastasis at diagnosis seems to be more frequent in this population. EGFR mutation and EML4-alk translocation frequency is higher than the frequency reported in the general population.

Keywords: NSCLC, young, EGFR, ALK

P1.06 Lung Nodule Volumetry: Analysis of the Measurement Variation



Track: Prevention, Early Detection, Epidemiology and Tobacco Control

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Background: The purpose of the study was to determine the intra-scan variability of volumetric measurements of solid pulmonary nodules.

Method: In this retrospective study, 827 consecutive patients that underwent cardiac multi-phase CT scan were evaluated. All the CT exams were performed on a 256-row CT scanner (SIEMENS Somatom Definition Flash) using 0.6mm slice thickness and soft kernel. The image reconstructions were done using 10 phases in 10% of each RR interval. The images were evaluated in the axial plane to identify the lung nodule and after the automatic tool for lung lesions – volumetry was applied. The volume of the nodule was determined two times according with two different phases of the scan for each patient.

Results: 66 pulmonary nodules with medium volume of 8mm were included. The mean nodule volumetry difference was 513mm³ or 21.6%. Confidence interval of difference observed on measurements taken on different cardiac phases: Percentile 5= 15mm³ or 0.00%; Percentile 50= 62mm³ or 14%, and Percentile 95= 1696mm² or 58%. The volume measurements showed significant variability for any one given nodule during a single multi-phase scan (p<0.05). There was no correlation between the volume measurement of the nodule and the difference between the volume measurements.

Conclusion: There is significant cardiac phase variability in lung nodule volume measurement.

Keywords: variation, Lung, volumetry, nodule

was to evaluate the student's perception about the effectiveness of each intervention.

Method: Students surveyed had to evaluate each policy in a binary answer (less effective or very effective). Chi squared test was used to compare answers between smokers and never smokers.

Results: 212 students answer the questionnaire. 113 females (53.3%) and 99 males (46.7%). Median age 21 years. 49 smokers (23.2%) and 162 never smokers (76.8%). Median age of start smoking 16 years, median of cigarettes per week was 7 (1-48). There were not discrepancies in effectiveness between two groups in monitor tobacco use policies (p=0.27). 52% of never smokers and 26% of smokers consider that protect people from tobacco smoke is very effective (p=0.001). Offer help to quite tobacco is consider very effective in 32% of smokers versus 57% of never smoker (p=0.003). To require effective package warning labels is very effective in 25% of smoker and 50% of never smoker (p=0.002). Implement counter-tobacco advertising is equally effective for half of both groups (p=0.20). To obtain free media coverage of anti-tobacco activities is very effective in 53% of never smokers and 36% of smokers (p=0.04). To enforce bans on tobacco advertising promotion and sponsorship is very effective in 56% of never smokers and in 40% of smokers (p=0.053). Increase tax rates for tobacco products and ensure that they are adjusted periodically to keep pace with inflation and rise faster than consumer purchasing power is very effective for 41% of smoker and 56% of never smoker (p=0.062). Strengthen tax administration to reduce the illicit trade in tobacco products did not show difference in effectiveness in both group (p=0.13).

Conclusion: MPOWER policies are useful to prevent smoking. The perception of the effectiveness of each intervention varies according tobacco use.

Keywords: policies, smoking, students, MPOWER

P1.07

University Students' Perceptions About Effectiveness of Mpower Policies on Tobacco Control



Track: Prevention, Early Detection, Epidemiology and Tobacco Control

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Background: Tobacco use is a leading preventable cause of disease, disability and death worldwide. To expand the fight against the tobacco epidemic, WHO has introduced the MPOWER package of six proven policies: 1.- Monitor tobacco use and prevention policies, 2.- Protect people from tobacco smoke, 3.- Offer help to quit tobacco use 4.-Warn about the dangers of tobacco 5.-Enforce bans on tobacco advertising, promotion and sponsorship, and 5.-Raise taxes on tobacco. The aim of this study

P1.08

Updated Analysis of Global Epidemiology of EGFR Mutation in Advanced Non-Small Cell Lung Cancer



Track: Prevention, Early Detection, Epidemiology and Tobacco Control

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