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Session H. Lung cancer

H33 Venous thromboembolic events in advanced adenocarcinoma of the lung: impact on prognosis according to platinum therapies and presence of driver mutations

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Background: The association of venous thromboembolic events (VTE) and lung cancer has a high prevalence. Limited data are available in the adenocarcinoma subtype population especially in relation to platinum based therapy and presence of driver mutations. We evaluated these aspects in our retrospective series.

Methods: We evaluated data of patients treated for advanced adenocarcinoma from January 2003 to July 2014 in our Institution. We conducted a subgroup analysis according to EGFR, KRAS and BRAF status defined by MassArray (Sequonom). Presence of EML4-ALK translocation was evaluated by FISH. Overall Survival (OS) and 95% Confidence Interval (95% CI) was estimated by Kaplan-Meier method and compared by logrank test.

Results: Among 289 evaluable patients, 62 (21.5%) experienced VTE. Median OS was 17 months (14.6-22.3): OS in VTE patients was 14.5 months (10.8-17.1) while in non VTE patients was 21.6 months (15.3-27.1) (p = 0.036). Forty-three (21%) of the 202 patients who received chemotherapy containing platinum in any line of treatment (188 in first line) developed TVE; a similar percentage of VTE was seen in those patients who never received platinum compounds. Among VTE patients, 45 (72.6%) didn't show driver mutations (p = 0.408). In the group of patients with driver mutations, 12 of 49 (24.5%) with EGFR mutation (p = 0.706) had VTE. Only 131 patients were evaluated for KRAS status: 50 presented KRAS mutation of which only 3 (6%) had VTE; occurrence of VTE was significantly higher in KRAS wild type patients (p = 0.032). Of 110 patients evaluated for EML4-ALK status only 2 of 6 (33%) with translocation had VTE (p = 0.276). No VTE were seen in 5 BRAF mutated patients.

Conclusions: Occurrence of VTE in lung adenocarcinoma in our series was higher than that reported in historical control of literature and is related with worsening of prognosis. No clear statistically significant relationship was seen between VTE and platinum based chemotherapy or presence of driver mutations. In particular the KRAS mutation seems to be not related with VTE. Prospective data in larger population are needed to confirm these findings.