Molecular features of KRAS mutant NSCLC: weaving a future score for immune-check point inhibitors (ICI)

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Results: We identified 51 patients from 201 NSCLC, with KRAS mutation through NGS (25.4%). 53% had PDL1 >1%. High CD8 T Cell infiltration was detected in 18%. (Table 1)

KRAS most frequent mutations detected were G12C (43,9%) and G12D (17,1%). Most KRAS G12C, had PDL1 positive (69%), 25% had PDL1 >=50% and 25% had high TILs.

KP group showed an immune phenotype respect KL group (Table 2)

KRASmut and PDL1 positive, showed better mOS respect PDL1 negative (21 vs 14 months, p= 0,25). Those with PDL1 >=50%, reached median survival of 39 months.

Patients KRASmut and PDL1 negative, obtained similar low survival rates regardless of treatment (OS 15%).

CONCLUSIONS: KP group shows an immune phenotype. Therapies with ICI shows better survival in KP group and PDL1 positive. KL group is a challenging group without real ICI efficacy and results from KRAS inhibitors early trials have shown major benefit in this group. Our study shows a potential molecular score to select treatment. A wider sample is expected to support this observation.

Background: Retrospective trials show a tendency of higher efficacy of ICI in NSCLC KRAS mutant subgroup. If KRAS could take part as a biomarker score for ICI efficacy is still unknown.

Methods: Our group performed a retrospective analysis from all NSCLC patients with NGS analyses (Oncomine V3.0, Guardant 360, and Foundation One and Liquid).