994P Role of FGFR2 amplification in prognosis of patients with ovarian cancer

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Background: Fibroblast growth factor receptor (FGFR) signaling has been implicated to play a role in tumorigenesis. Aim of this study was to evaluate rate of FGFR2 amplification and preliminary role in patients (pts) with ovarian cancer (OC).

Methods: Material from each patient with advanced OC included 3 paraffin-embedded samples: primary ovarian tumor, primary metastatic lesion, and relapse lesion. Samples were analyzed by fluorescence in situ hybridization (FISH) to identify FGFR2 amplification and level of polysomy. Scoring for amplification and polysomy level was adopted from previous studies for gastric cancer [Su et al. BJC 2014]. The analysis was performed in all three samples regardless of the presence of FGFR2 amplification or heterogeneity in primary tumor.

Results: 166 samples from 67 pts with advanced ovarian cancer (OC) stage Ic-IV were analysed. Amplification was detected in 11 of 67 pts (16.4%) and high-level polysomy in 31 of 67 (46.3%). All three tumour samples were analyzed in 43 pts. FGFR2 amplification, high-level polysomy were detected in 9 (20.9%) and 19 (44.2%), respectively. Analysis of survival differences revealed no statistically significant difference between

the pts with polysomy and non-amplified pts (HR 2.12; 95% CI 0.17-0.21, p = 0.32). Median progressive free survival (PFS) after first line platinum based chemotherapy was 12.6 months in pts with amplification in comparison with 23.1 months in non-amplified (p = 0,012). Pts with amplification in primary tumour (ovary) had statistically poor prognosis than non-amplified pts: median PFS was 12.0 and 22.6 months respectively (p = 0.003). Pts with FGFR2 amplification in primary metastatic lesions and relapsed tumour had tendency to poor prognosis: PFS was 10.3 and 19.6 months in primary metastasis lesions (p = 0.09), and 10.3 vs 22.6 months in relapsed lesions (p = 0.07).

Conclusions: We described FGFR2 amplification in 16.4% of pts with advanced OC. Preliminary data demonstrate a negative impact of the FGFR2 amplification in primary tumour (ovary) on long-term outcomes.

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