

371P Clinical utility of Encyclopedic tumour analysis to treat patients advanced refractory head and neck cancers

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Background: Head and Neck Squamous Cell Carcinomas (HNSCC) account for 4.5% of global cancer incidences and mortality respectively. In India however, HNSCC accounts for 17% of cancer related incidences and 15% of cancer related mortality. Standard of Care (SoC) systemic treatment approaches for HNSCC are based on randomized clinical trials which do not sufficiently consider patient specific features of the tumor. We evaluated the efficacy of personalized treatment in a cohort (n = 31) of advanced refractory HNSCC, where patient-specific treatment regimens were based on Encyclopedic Tumor Analysis (ETA).

Methods: Freshly biopsied tumor tissue and peripheral blood of patients were used for integrational multi-analyte investigations as part of ETA, which included gene alterations and gene expression, as well as in vitro chemosensitivity and response profiling (CRR) of viable tumor cells. Patients received individualized therapy recommendations based on ETA. All patients underwent whole body PET-CT and brain MRI scans prior to start of treatment, and follow-up scans every 6-8 weeks. Treatment response was evaluated as per RECIST 1.1 criteria.

Results: Among the 31 patients who received personalized treatment guided by ETA, partial response (PR) was observed in 14 patients and Stable Disease (SD) in 16 patients yielding an Objective Response Rate (ORR) of 45.2% and Clinical Benefit Rate of (CBR) 96.8%, respectively. Patients were followed up for a median of 146 days (Range 42 – 368). At most recent follow-up 1 patient showed disease progression, whereas Progression Free Survival was observed in 30 patients. Median Progression-Free Survival was 146 days. No grade IV adverse events were observed. There were no treatment related deaths. Most common Grade III adverse events included Fatigue, Anorexia, Thrombocytopenia, Neutropenia and Oral Mucositis. Most patients reported qualitative improvements in symptomatic and functional status.

Conclusions: ETA guided treatments can offer viable treatment options in advanced refractory HNSCC yielding meaningful ORR and disease control in majority of patients.

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