sensitivity and specificity of tumor-naive ctDNA panels are limited in the minimal residual disease (MRD) setting. Additionally, EAC is known to be a low shedding tumor type, thus, a personalized, tumor-informed approach for ctDNA analysis is ideal for MRD detection after treatment and for providing prognostic value in EAC patients.

Methods: Using the prospectively collected multi-centre UK OCCAMS dataset we identified patients (n=12) with pre- and post-surgical plasma samples (n=26). Mutational profiles derived from tumor tissue were used to design assays targeting patient-specific somatic variants (Signatera™ bespoke multiplex-PCR NGS assay). The personalized assays were used to determine the presence of ctDNA in the plasma samples of EAC patients. Additional patients are currently being processed and will be presented during the meeting.

Results: The cohort consisted of 12 patients with a median age of 62.8 (48.9 — 75.8) years, of which 83% were male and were T3 at diagnosis. All patients were treated with neoadjuvant chemotherapy, of which 2 also received radiotherapy. Minimal residual disease post-surgery was detected down to a mean variant allele frequency of 0.001%. Post-operative ctDNA analysis detected clinical relapse in 4 patients with a median lead time of 196 days giving a sensitivity and specificity of 100%.

Conclusions: In this pilot study, we showed that bespoke multiplex-PCR assays for esophageal samples achieve high sensitivity and specificity to detect recurrence in this low shedding cancer type. This result is a vast improvement over other ctDNA assays, which show <40% EAC sensitivity. Further prospective studies are warranted to investigate the clinical utility of the bespoke ctDNA assay as a modern risk stratification tool in this cancer type.

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A real-world clinical study of camrelizumab in the treatment of esophageal cancer

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Background: Camrelizumab, a fully humanized monoclonal antibody against PD-L1, has been approved in the treatment of advanced esophageal squamous carcinoma in China. The purpose of this study was to observe the efficacy and safety of Camrelizumab in the treatment of esophageal cancer in the real world.

Methods: This is an open-label, prospective, multi-centre, observational study. Eligible patients (pts) who received camrelizumab had esophageal cancer; age ≥18, ECOG PS 0-2; and measurable disease.

Results: From August 1, 2019 to May 1, 2020, 100 pts were enrolled. There are 80 (80.0%) males. The median age was 65.0 yrs. The majority pts were at stage IV (74.0%), had prior surgery 47(47.0%) and radiotherapy 61(61.0%). Pts with ECOG PS 1-2 were 85 (85.0%). Metastases were detected in 88 (88.0%) pts, which mainly were lymphatic metastasis. Pts received first-line treatment, second-line, third-line or above, respectively were 20.0%, 31.0%, 48.0%. Before immunotherapy, only one patient was tested for PD-L1. Pts received apatinib monotherapy or in combination with chemotherapy or antiangiogenic therapy, respectively were 9.0%, 39.0%, 36.0%. Before PD-L1, related AEs were RCCEP (1.0%), hypothyroidism (1.0%) and anemia (1.0%). There were 49 patients eligible for efficacy evaluation. 9 achieved partial response, 30 achieved stable disease and 10 got progressive disease. Thus, the objective response rate (ORR) and disease control rate (DCR) were 18.4% and 79.6%. The incidence of AEs was 55 (55.0%) and the grade 3/4 treatment-related AEs was 3 (3.0%). Main AEs were RCEP (18.0%), fatigue (17.0%), anorexia (11.0%). The grade 3/4 treatment-related AEs were RCEP (1.0%), hypothyroidism (1.0%) and anemia (1.0%).

Conclusions: In real clinical applications, Camrelizumab is mostly used in patients with poor physical condition, metastatic and late stage, and most patients had front-line treatment. PD-L1 detection is rarely performed in patients before medication, and most patients are treated with combination therapy of Camrelizumab. Camrelizumab is confirmed to be effective and safe in patients with esophageal cancer. Further analysis is needed to determine which factors are the positive factors in the treatment of Camrelizumab.

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