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ERRATUM

Erratum to "P-309 In vitro drug screening of patient-specific tumoroids to predict chemotherapeutic treatment response in pancreatic ductal adenocarcinoma: An interim analysis"

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The organisers regret that in the original publication of the Abstract Book of the ESMO 24th World Congress on Gastrointestinal Cancer 2022 abstract P-309 was omitted. That abstract is as follows:

P-309

In vitro drug screening of patient-specific tumoroids to predict chemotherapeutic treatment response in pancreatic ductal adenocarcinoma: An interim analysis

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Background: Pancreatic ductal adenocarcinoma (PDAC) is one of the deadliest cancer entities. At diagnosis, only the minority of patients qualify for a curative treatment approach encompassing surgery and chemotherapy. In patients receiving adjuvant FOLFIRINOX (FFX) treatment median recurrence-free survival (RFS) is 21.6 months. In palliative treatment, chemotherapy (e.g. Gemcitabine) is administered to extend progression-free survival. Patient-specific features of PDAC can be captured in three-dimensional tumor organoids (tumoroids), which have become a well-recognized tool for studying inter-individual differences. We are employing this technology to measure chemosensitivities of patient-specific cultures to a panel of clinically relevant compounds and combinations: FFX, Gemcitabine, Gemcitabine-Paclitaxel, Cisplatin and Olaparib. Tumoroids are screened using the IndiTreat® test, by which a given result is compared and classified according to a reference group of previously screened patients. We aim to build a reference database of 50 PDAC patients and retrospectively correlate IndiTreat® results with clinical follow-up data (RFS). An interim analysis was performed upon successful chemosensitivity testing of 9 patients. To this end, in-vitro growth inhibition (GI) of treated tumoroids >50% was considered a good response.

Methods: PDAC patients undergoing surgical resection of their primary tumor at the University Medical Center Hamburg-Eppendorf are included in this study. Fresh tumor samples are fragmented (mechanically and enzymatically) and cell clusters are embedded in extracellular matrix and cultured in pancreas tumoroid media. Prior to chemosensitivity testing, tumoroids are expanded over several passages. To determine suitable compound concentrations for IndiTreat® IC50 single concentration testing, dose-titration curves were performed on an initial set of 5-6 patients. Chemosensitivity testing of further patient samples are performed using fixed drug concentrations. IndiTreat® results were correlated with clinical data. Patients, who died perioperatively or never started treatment (n=4) were excluded from clinical correlation.

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Results: We analyzed correlated data from n=5 patients, of which n=4 individuals received adjuvant FFX treatment: Good response (projected 77.5% GI) was observed for patient 1, who had no RFS within the first 6 months of follow-up. Patient 2 responded poorly to testing of FFX (projected 9% GI), as reflected by recurrent disease 4 months after treatment. Subsequently, therapy was switched to Gemcitabine-Paclitaxel. Patients 3 (73.4% GI) and 4 (60.8% GI) also presented recurrent disease after 3 and 4 months, respectively. Palliative Gemcitabine treatment was received by n=2 individuals: Patient 2 showed a very good response in-vitro (projected 99.8% GI), and the patient was still alive without further progress after 17 months. Patient 5 had an average response to Gemcitabine (49.1% GI), mirrored by a progressive disease 3 months after treatment.

Conclusions: Drug-screening analyses executed on the IndiTreat® platform may aid in predicting treatment responses in PDAC patients receiving chemotherapy in adjuvant settings. Our interim analysis, whilst performed on a very small patient cohort, is indicative of in-vitro testing results being in line with clinical outcome after FFX or Gemcitabine treatment. For reliable correlation analyses, additional patient samples need to be screened. A greater patient cohort will also enable assessments for clinically less frequently used drugs and aid in identifying more suitable cut-off values for judging IndiTreat® data.

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The organisers would like to apologise for any inconvenience caused.