

Abstract 1278

## THE BIOMOLECULAR MARKERS FOR THE PERSONALIZED PREDICTION OF THE TREATMENT EFFECT IN PATIENTS WITH HEAD AND NECK CANCER: PILOT STUDY

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### Introduction

The clinical utility of liquid biopsies as diagnostic, predictive and prognostic biomarkers has been shown for several cancers. Our study focuses on analysing the dynamics of HPV cell-free DNA (cfDNA) levels during the surveillance of patients with oropharyngeal tumours to improve the management of patients. We present preliminary data on the evaluation of plasma collection methods, and their efficiency in subsequent analyses of the dynamics of HPV cfDNA level.

### Methods

Plasma was collected the day before treatment and in intervals during post-treatment follow-up. Two methods of plasma collection were used. Isolation of ctDNA from plasma was performed, the quality of extracted ctDNA was evaluated, and HPV cfDNA was detected by ddPCR and NGS.

### Results

Fifty-two paired samples from 20 patients were analysed. The paired profiles on the chip electrophoresis were comparable, with a greater influence of the individual patient's condition rather than the collection method or time since sampling. We observed a decreasing level of HPV cfDNA after surgery or from the initiation of treatment in long-term follow-up patients.

### Conclusions

In summary, we have shown that both methods of plasma collection are usable for HPV cfDNA analysis and that the level of HPV cfDNA decreases in time from the beginning of treatment to the zero level.

