

Preventive and prognostic factors in gynecological malignancies

MUDr. Klaudia Grafnetter

Abstract

In recent years, Oncology has progressed by giant leaps in diagnostics and treatment. Gynecological tumors belong to frequent malignancies, which are also diagnosed in young women. Liquid biopsy and its benefit in clinical practice have also become discussed topics in recent years. The liquid biopsy appears to be a suitable prognostic and predictive factor. Its advantage is a minimal ballast for the patient and easy availability – get from peripheral blood.

In our research, we focused on patients diagnosed with cervical cancer, who underwent radical radiotherapy. A total of 30 patients were included, all of whom underwent radiotherapy with potentiation of chemotherapy and were further monitored in our clinic. In our research, a total of 167 tests were performed before treatment, after treatment and during follow-up. In parallel, we also monitored oncomarker SCC. There were observed changes in CTC – most patients had initially positive CTC and SCC with decrease after treatment, which correlated with the clinical picture and disease regression. Patients who did not have disease progression during follow up, had a higher CTC level before treatment. There was diagnosed a disease progression in 10 patients during follow-up. In that group of patients, we observed an increase in number of CTC approximately 12 weeks before disease relapse diagnosed by imaging methods. We also completed a quantitative PCR analysis of pretreatment CTC. The analysis confirmed the increased expression of SOX2 and POU5F1 in the group of patients with disease progression ($p < 0,02$).

CTC appears to be a suitable auxiliary indicator of disease aggressiveness. Monitoring CTC during treatment and follow-up of patients can help detect earlier relapse and affect patient's prognosis. By further analyzing CTC, they may also become an important tool to personalize cancer treatment.