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Circulating epithelial cells: Ready for routine

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Circulating epithelial tumor cells (CETC) are cells derived from the primary and metastatic tumor, which persist and re-circulate in the peripheral blood and can lead to the formation of distant metastases. CETC analysis is already used in routine diagnostic to monitor the risk for metastatic relapse and progression in patients with malignant disease. Non-dissipative approaches like maintrac allow the quantitative detection of CETC in the peripheral blood, also of non-metastatic patients. Enumeration and further characterization of CETC can be used as a liquid biopsy for repeated follow-up examinations in a variety of human cancers. During the past 15 years maintrac was used in 13 clinical trials with more than 650 patients. Up to now, approximately 50,000 blood samples of more than 20,000 patients were monitored in routine with maintrac. Increasing numbers of CETC, for example in breast cancer patients during or after chemo and/or maintenance therapy, indicate increased tumor activity with an increased risk of relapse. In contrast, patients with decreasing cell numbers show a good prognosis. At the moment several clinical trials are ongoing, i.e. CETC as a screening tool or as companion diagnostics. We will present new results as well as examples of day to day use.

Biography

Stefan Schuster has received his PhD in Medicinal Chemistry in 2013 at the University of Erlangen, Germany. He is a Member of the Board of Management at the SIMFO GmbH. He is also responsible for scientific collaborations and received national and international grants for the work on circulating epithelial tumor cells. During the past years he has published several articles in the field of CETC.

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