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Clinical Research 5: Clinical Research 3: Solid Tumors

Abstract #1968

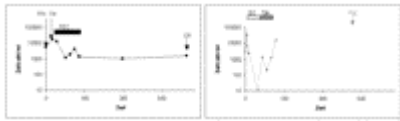
The hidden face of tumor treatment: tumor cell dissemination during treatment steps counteracts treatment success

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Background: Neither the introduction of new prognostic factors nor neoadjuvant chemotherapy or more aggressive treatments have been able to change the outcome of most malignant tumors. Now there even arises the discussion about the mammography paradox in young women with breast cancer and the mastectomy driven metastasis in high risk breast cancer patients. **Method:** Monitoring the effect of different treatment steps on the number of circulating tumor cells in breast and lung cancer using the MAINTRAC analysis where epithelial cells from peripheral blood are traced using fluorochrome labeled antibodies and laser scanning cytometry. **Results:** Cells are released from the solid tumor in breast cancer during mammography, seeded massively into the circulation during neoadjuvant chemotherapy and even during surgery (fig 1). Cells can then either remain dormant in the circulation for long times (observation time now 4 years) without leading to relapse. During adjuvant treatment in breast cancer long time complete responses are obtained even if circulating tumor cells show only a minor response, but relapses occurred even after good responses to chemotherapy if a rapid regrowth of circulating tumor cells was observed (typical courses of response are shown in fig. 2. **Conclusion:** Circulating tumor cells which we have shown to mirror the response of the whole tumor to

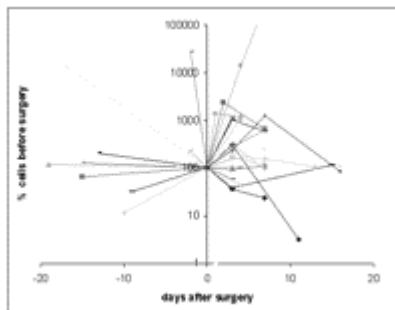
therapy can be seeded into circulation during different diagnostic and therapeutic approaches and if able to regrow lead to metastasis formation and relapse.



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