

# THE CANCER REVOLUTION

## **Additional Material for Appendix 1**

**Dr Douwes**

### **Chemotherapy Sensitivity Testing**

Two patients with the same type of cancer can be sensitive to a whole different array of chemotherapeutic agents, so instead of grouping all of our patients together and giving them all the same agents, we do chemotherapy sensitivity tests. These determine the specific chemotherapy agents that their tumour cells may best respond to. There are two labs we use for this purpose; one is in Hamburg (Metavectum), the other is in Bayreuth (Dr. Pachmann). The Metavectum Institute (Dr. B. Stefan) extracts circulating tumour cells from patients' blood samples and performs a genomic and proteomic analysis. According to the results, we can then choose the agents that the cancer cells have the highest response to and preferably use these substances for treatment. The Metavectum lab also provides us with comprehensive information on the genetic makeup of the tested cancers, which helps us to not only determine the appropriate therapies for our patients, but also gives us more precise information about the biology of the tumour, which is very important for the prognosis. Once we have this information, ideally, we will put together an individualised treatment regimen for the patient. It takes ten days for the results of Metavectum to come back. Another advantage of this test is that only a blood sample is required to do it, rather than tissue from the tumour itself. So, unlike some other types of chemotherapy sensitivity testing, where cancer tissue is necessary, it's safe for us to use this test with isolating circulating tumour cells from peripheral blood, especially in those with metastatic disease.

Most doctors, world wide, will not even look at this type of testing, but we find it helpful. Sometimes we are using drugs that I, as an oncologist, wouldn't even think of using to treat these types of cancer. For example, we learned that many cancers have a high production of cyclooxygenase 2 (COX2) which is a mediator causing inflammation and it is also helping cancer to proliferate. By just prescribing a COX2 inhibitor we can interfere with the tumour activity. With this testing we also receive information on which complementary drugs or supplements could be helpful and we find that this works well.

So, we are not only able to work out the best treatment for our patients through chemotherapy sensitivity testing and the IPT process, but years ago we also developed an integrative cancer therapy concept (ICTC) that also includes hyperthermia, ECT and PDT to make treatments more tolerable and effective for them.