Photodynamic Spectroscopy- A new powerful tool in cancer medicine

The presentation introduces a new diagnostic method, which allows to detect circulating single tumor cells in the blood and to remove it from the bloodstream. To illustrate the situation: the Magneto Resistance Tomography (MRT) is able to detect tumors, which have a mass of at least 1 gram or more. That represents the presently accepted early cancer recognition threshold. However, a $1 \text{ g}$ tumor consists of about 1 billion cells ($10^9$)! The new diagnostic method, which we introduce, combines the principles of Photodynamic Therapy and high resolution Raman Spectroscopy. The clinical tests of this diagnostic method, which we call ‘Photodynamic Spectroscopy- PDIS’ are successfully finished. The PDIS can be used to avoid the formation of metastases and therefore to reduce the cancer mortality and to detect circulating tumor cell clusters in blood with an ultimate resolution of one single cancer cell and to destroy such cells. It allows evaluating for each patient the efficacy of his individual chemotherapy and/or radiation treatments. In case of remaining cancer cells in blood, the PDS can be used to find and to destroy such cell clusters and primary tumors therefore, to reduce the risk of formation of metastases significantly. PDIS can be applied for preventional screening of patients having a higher familiar or genetic risk to develop cancer as part of the annual checkup. PDIS is of interest for all therapists, not only for cancer specialists (1), who are confronted to cancer patients. PDIS is a new powerful tool in cancer diagnostics and treatments. Moreover, it is easy to perform.

Biography

Detlef Schikora has accomplished the study of physics and medicine and dissertation A and B at Humboldt University of Berlin, Germany in 1974. He has been the University lecturer since 1994 and Head of the biophysics research group at the Faculty of Science of the Paderborn University, Germany. He has published 144 original scientific papers. He is an author of the compendium; Laserneedle-Acupuncture: Science and Practice”, Pabst Science Publishers, Lengerich, 2004 and author of the “Laserneedle Therapy Handbook” lane publishers Berlin, 2013. He awarded in 2004 with the "International Research Award" of the Medical Acupuncture Research Foundation (MARF) and the American Association of Medical Acupuncture (AAMA) of the United States of America “inventor of a patented photomedical treatment procedure and technology “ mitochondrial excitation due to lowering of light absorption = medlouxx “ in 2012. He is the inventor of a patented photodynamic diagnosis and treatment method, Photodynamic Infrared Spectroscopy, PDIS, in 2017.