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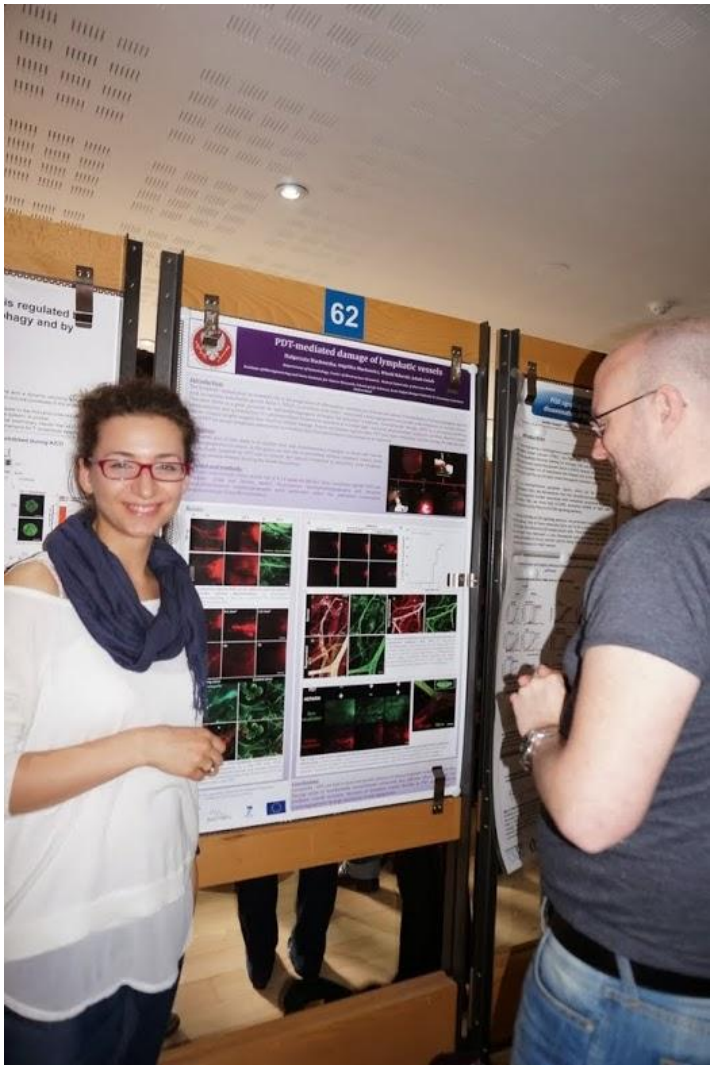
BASTION - FROM BASIC TO TRANSLATIONAL RESEARCH IN ONCOLOGY

Report from active participation in 21st ECDO Euroconference on Apoptosis on "Cell death: a Biomedical paradigm", 25 - 28 September 2013 – Małgorzata Wachowska



Dr Wachowska during poster sesion at ECDO, Paris, France.

ECDO Euroconference is an annual international meeting that addresses a wide range of questions on the normal regulation and pathogenic dysfunction of distinct cell death modalities, the new strategies for therapeutic cancer cell induction, and the immunogenicity of distinct cell death types.

Title of the poster: "PDT-mediated damage to lymphatic vessels"

Authors: Malgorzata Wachowska (presenting author), Angelika Muchowicz, Witold Kilarski, Jakub Golab

The lymphatic system plays an essential role in the progression of inflammation, autoimmune diseases and cancer. Overexpression of lymphangiogenic agents, such as vascular endothelial growth factor C (VEGF-c), correlates with tumor - associated lymphangiogenesis and lymph node metastasis in various tumors. Therefore there is a great potential for anti-lymphangiogenic strategies for antitumor treatment. Photodynamic therapy (PDT) is a procedure involving administration and accumulation of a photosensitizer followed by exposure to a visible light. Activated photosensitizer produces cytotoxic reactive oxygen species (mainly singlet oxygen) that result in cellular damage. Tumor vasculature rupture after PDT have been extensively studied during the past decades. Use of PDT for tumor lymphatics destruction is a recently described phenomenon just started to be explored.

The overall goal of this study is to explore new and complementary strategies to block and reverse lymphangiogenesis in cancer. At this point our aim was to determine whether lymphatic vessels could be specifically targeted by PDT, and to identify the optimal conditions to selectively close lymphatic collecting vessels without injuring the blood vasculature.

All in vivo experiments were carried out in 8-16 week old BALB/c mice. Lymphatic-specific PDT was performer using ear dermis model. Fluorescence microlymphangiography and intravital immunofluorescence lymphangiography were performed under the automated fluorescence stereomicroscope (Leica Microsystems).