香港浸會大學
HONG KONG BAPTIST UNIVERSITY

School of 中醫藥學院 Chinese Medicine

Circulatory Tumor Microenvironment

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DATE	:	20 May 2014, Tuesday *(including Q & A session)*
TIME	:	**10:00 – 11:30**
VENUE	:	SCM809
LANGUAGE	:	English
FACILITATOR	:	Dr. ZHANG Ge

Abstract of the Seminar

Attachment of tumor cells to the endothelium (EC) under flow conditions is critical for the migration of tumor cells out of the vascular system to establish metastases. The interactions between cancer cells and the host immune system are of particular interest to our group. Innate immune system processes can potentially promote tumor progression through inflammation dependent mechanisms. Human neutrophils (PMNs), which comprise 50-70% of circulating leukocytes, are being studied to better understand how the host immune system affects cancer cell adhesion and subsequent migration and metastasis.

Melanoma cell interaction with the EC is distinct from PMN-EC adhesion in the circulation. We found PMN increased melanoma cell extravasation, which involves shear-dependent initial PMN tethering on the EC and subsequent PMN capture of melanoma cells and their delivery to close proximity to the EC. In addition, melanoma-induced inflammatory cytokine IL-8 contributes to PMN tethering and subsequent melanoma arrest on the EC via the PMN-melanoma cell binding.

These results provide new evidence for the complex role of hemodynamic forces, secreted chemokines, and PMN-melanoma adhesion in the recruitment of metastatic cancer cells to the endothelium in the microcirculation, which are significant in fostering new approaches to cancer treatment through potential immune cell-mediated drug deliveries and therapeutics.

Welcome