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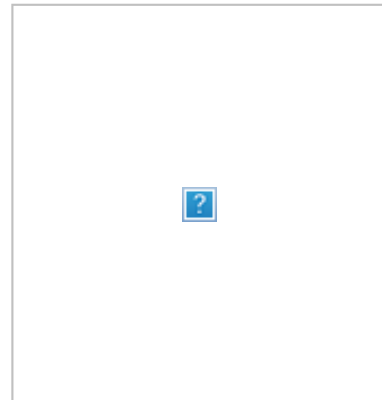
Metastatic Brain Cancer: Balancing Hope and Knowledge in Decision-Making

In metastatic brain cancer, a condition where life expectancy is usually less than six months, patients and their caregivers have to make difficult decisions about the treatment options fairly quickly. UHN researchers Drs. Rebecca Wong and [Andrea Bezjak](#) recently led a team that pinpointed four factors important to this decision-making process: hope, knowledge, expectations of radiotherapy results and current symptoms.

However, the researchers found that unrealistic expectations of treatment benefits could hinder making appropriate decisions regarding best use of their remaining time.

“Patients and caregivers often perceive aggressive treatment of brain metastases through whole-brain radiotherapy as the only treatment option,” says Dr. Wong. “Supportive care, such as symptom management, is often not considered. Our results suggest that it is beneficial for health care professionals, patients and caregivers to ‘hope for the best and prepare for the worst,’ so that the treatment plan can accommodate different potential therapeutic outcomes.”

Support Care Cancer. 2006 Feb 25; [Epub ahead of print]. [[PubMed Abstract](#)] Research supported by the Allan Kerbel Fund in Symptom Control.



Lung Diseases: Molecule Helps Body Clean Up—On a Microscopic Scale

A recent finding by a UHN team that a molecule found in the cell membrane can trigger an important immune process may have implications for the treatment of lung conditions.

Phagocytosis is a process where immune cells called macrophages consume offending cellular debris or foreign organisms inside the body. A research team led by Drs. [Gregory Downey](#) and Chung-Wai Chow has shown that this process can be triggered by CD44, a membrane protein.

Explains Dr. Downey, “We knew that CD44 was involved in phagocytosis, but its specific role was unclear. Our experiments showed that CD44 was capable of mediating the ingestion of large particles independently of other receptor molecules.”

CD44 deficiencies have been linked to enhanced susceptibilities to lung injuries, as the body’s ability to remove foreign irritants is diminished.



“Identifying the role of CD44 in phagocytosis could help researchers develop new therapies for inflammatory conditions such as acute lung injury or acute respiratory distress syndrome,” continued Dr. Downey.

Blood. 2006 Feb 2; [Epub ahead of print]. [[PubMed Abstract](#)]
Research supported by the Canadian Cystic Fibrosis Foundation.

Epilepsy: Electrode Brain Treatment Reduces Seizure Number

Electrical deep brain stimulation (DBS) of the thalamus may help reduce the number of seizures in people with epilepsy, according to a study by UHN's Drs. Richard Wennberg and [Andres Lozano](#). Epilepsy is a chronic neurological condition characterized by seizures, with an estimated incidence of 15,500 new cases in Canada each year.


The researchers' long-term study looked at the effects of DBS, where electrodes were implanted into the brain's thalamus. They discovered that five out of eight patients reported a fifty percent or greater reduction in the number of seizures.

Says Dr. Wennberg, “Further research into the exact cause of these benefits is needed to improve DBS's potential as a therapeutic option for people with epilepsy.”


Neurology. 2006 Mar 15; [Epub ahead of print]. [[PubMed Abstract](#)]

Breaking News from UHN Research

Wednesday's Symposium Celebrates UHN Stem Cell Pioneer

The contributions of Dr. [E. A. McCulloch](#) to stem cell biology research were honoured at a symposium at the Princess Margaret Hospital on Wednesday, April 26, 2006. 

A series of talks by experts in the stem cell biology field from UHN and across North America was presented to an overflowing audience. The talks focused on the beginnings of experimental stem cell biology and the relevance of stem cell biology to leukemia treatment.

"Today we recognize Dr. McCulloch's originality, capacity for innovation, passion for science and role in creating the foundations of stem cell biology," said Dr. Tak Mak in his concluding remarks. 

The symposium was organized by Drs. [Hans Messner](#), [Norman Iscove](#), [Mark Minden](#) and [Tak Mak](#), and was sponsored by The Campbell Family Institute for Breast Cancer Research.

UHN ALS Discovery Licensed

Novel drug targets on a protein implicated in amyotrophic lateral sclerosis (ALS) discovered by Dr. [Avi Chakrabarty](#) and Rishi Rakhit were licensed recently to Amorfix Life Sciences Ltd.

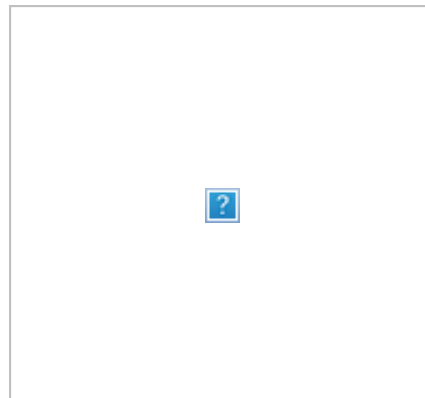
Under the terms of the license agreement, negotiated by the UHN Research Business Development Office, the company will invest at least \$260,000 in Dr. Chakrabarty's research program at UHN. The new relationship could

lead to the development and commercialization of an effective treatment for this devastating neurological disease.

IBM Canada and UHN Create Life Sciences Discovery Centre

A new research centre recently launched at UHN will use integrative approaches to discover new treatments for lung, ovarian, colon and prostate cancer.

Key to the centre's research capacity is the new \$2.5M supercomputer infrastructure provided through a grant from IBM Canada. It will allow researchers at the new Life Sciences Discovery Centre to analyze enormous amounts of data to pinpoint cancer-specific signals and identify aberrant pathways.



Says centre scientist and OCI/PMH researcher Dr. [Igor Jurisica](#), "The new centre will help us develop means to detect cancer before symptoms are visible, allowing early diagnosis and improving the likelihood that cancer can be treated effectively." The centre will also encourage collaborative research between IBM and OCI/PMH's pioneering cancer research program.

Four UHN Researchers Win Prostate Research Grants

UHN Research congratulates Drs. Masoom Haider, [Jan Jongstra](#), [Jeremy Squire](#) and Gina Lockwood, who were each recently awarded a research grant from the Prostate Cancer Research Foundation of Canada. The funded projects cover:

- localizing inter-prostatic cancer using imaging techniques
- testing a new treatment in mice that uses a drug in combination with radiation therapy
- using neural networks to improve prostate cancer predictions
- improving the clinical detection of prostate cancer

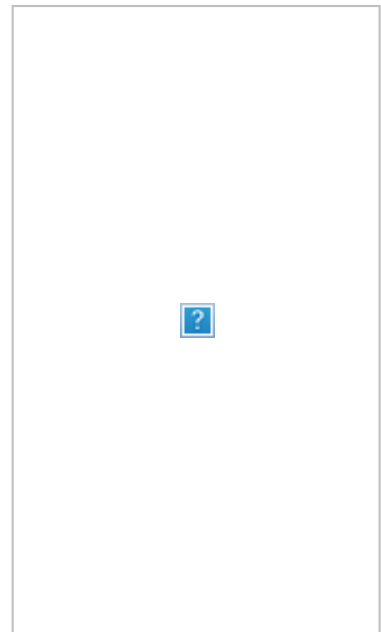
Johnson & Johnson and UHN Team Up to Create Development Award for Medical Research

UHN welcomed support from Johnson & Johnson Corporate Office of Science and Technology (COSAT) in the form of a new Development Acceleration Award. This award will help speed up the commercialization of discoveries in diagnostics, medical devices and new therapies by UHN researchers.

Funded equally and jointly by COSAT and UHN Global Ventures, the award could inject \$500,000 in new research commercialization support over three years at UHN.

Some of the areas expected to be supported include:

- gene-targeted therapies
- neuromodulation via deep brain stimulation
- cortical stimulation and localized drug delivery
- tissue engineering and regenerative medicine
- development of novel models for drug development.



Research Fact

Dr. [John Dick](#)'s research on cancer stem cells is highlighted in the April 24 issue of TIME Magazine. The article, "[Stem Cells That Kill](#)," examines the idea that a small percentage of cancer cells, called cancer stem cells, are responsible for recurring malignant cancer because they contain the 'master print' for tumours. Mentioned in the article is Dr. Dick's research team's discovery that a protein, CD34, could potentially be a screen for leukemia stem cells.

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Some images adapted from the image archives of Dr. Igor Jurisica, UHN PhotoGraphics and stock.xchng.ca.