

Umbilical cord stem cells used to treat heart

November 23, 2012 | News | By BioSpectrum Bureau



Singapore: A joint study conducted at University of Toronto and Princess Margaret Hospital, Canada, revealed that human umbilical cord perivascular cells (HUCPVC) that are derived from the umbilical cord are more effective in restoring heart function after an acute heart attack when compared with a similar cell population derived from bone marrow.

The study, published in *Cell Transplantation* and headed by Dr Armand Keating, demonstrated that the cells originating from the tissues surrounding the blood vessels of the human umbilical cord, also known as "Wharton's Jelly," outperformed the current gold standard for stem cell therapies for repairing damage to heart muscles, after an induced heart attack when injected directly into the affected area. The HUCPVC cell therapy was twice as effective at repairing damage to heart tissue than no treatment.

Dr Keating said that, "We are hoping that this translates into fewer people developing complications of heart failure because their muscle function after a heart attack is better."

Dr Keating and his team will now complete additional pre-clinical studies, and hope to begin clinical trials of the HUCPVC cells on patients within 12-to-18 months. Dr Keating is also interested in conducting further research with the umbilical cord cells to overcome the damaging effects of chemotherapy on heart tissue, an agonizing problem for some patients who may be cured of their cancer only to confront heart failure as a result of treatment.