



& St George Division of General Practise
jointly present

Stem Cell Workshop for GPs

Date: Tuesday 31st May 2005
Venue: St George Division Education Rooms
6.30 pm Registration & Dinner
7.00 pm Stem Cell Workshop



Professor Bernie Tuch, Prince of Wales Hospital

Bernie Tuch is Director of the Diabetes Transplant Unit at the Prince of Wales Hospital. He is also a Professor of Medicine at the University of New South Wales. In the 1980's, Professor Tuch was in charge of the Australian group that first transplanted human fetal pancreatic tissue into people with type 1 diabetes. Over the past few years, his Unit has been growing human embryonic stem cells obtained from Singapore, and is now working with colleagues in the IVF industry to make further human embryonic stem cell lines in Sydney.

Potential of Stem Cells in Medicine: Stem cells are undeveloped cells capable of proliferation, self-renewal, conversion to differentiated cells and regeneration of tissues. They are the source of all cell types in the body. Stem cells are derived from embryos, but can also be found in the adult, although in far fewer number. Embryonic stem (ES) cells are derived mainly from spare fertilized eggs in an IVF program, with the consent of the donor couple. These cells can be converted into insulin-producing cells, nerve cells, heart muscle, and skin for potential treatment of disorders that include type 1 diabetes, Parkinson's Disease, spinal cord injuries, heart disease and burns. ES cells can also be used for monitoring development of genetic disorders and testing the efficacy of drugs. The National Health and Medical Research Council approves the use of human ES cells provided they have been derived from donated excess embryos in an IVF program, and the project has been approved by an Institutional Ethics Committee. There are six human ES cell lines available in Australia. Three of these were produced in Australia following on approval from Federal Parliament of the creation of such lines from spare fertilized eggs.

Stem cells also may be obtained from adults, neonates in the form of cord blood, and fetuses. Supply of these cells is limited. When available the cells are useful in the treatment of haematological disorders, and, when genetically modified, of some benefit in conditions where there is a defective gene. The cells may eventually be of benefit in the treatment of spinal cord injuries, heart disease, Parkinson's Disease and corneal lesions.

Which form of stem cell, embryonic or non-embryonic, will be of benefit for a particular medical condition will require further experimentation. In type 1 diabetes, for example, ES cells are likely to be more beneficial. This is because there is a shortage of adult pancreases, which are a source of stem cells, even though it is possible to convert these as well as ES cells into insulin-producing cells.

Within Australia the Australian Stem Cell Centre has been created to co-ordinate the efforts of those wishing to use stem cells therapeutically. Within New South Wales, activity with stem cells has increased recently, as can be seen by the success of the NSW Stem Cell Network, an association of 450 scientists, medical doctors, ethicists, policy developers patent attorneys, and those in industry. All of these endeavours offer hope that new therapies will become available for more effective treatment of a number of medical conditions.



Mr Craig Cormick, Biotechnology Australia,

Mr Craig Cormick is the Manager of Public Awareness for the Government agency Biotechnology Australia. He has previously worked as a science journalist and has taught public relations and writing at university. He is widely published on drivers of public attitudes towards biotechnology, and is a regular commentator in the media and at industry and research conferences, both in Australia and overseas, on causes of public concern towards applications of biotechnology.

Public perceptions of Stem Cells: Public perceptions of science can have a major impact on research agendas and public, government and commercial support for scientific research, particularly where the science is new, uncertain or contested. Research into stem cells is an area that certainly falls into this category, and public support for stem cell research is likely to have implications for future therapeutic applications of stem cells. Thus, there is a need to understand how the public perceives the legal, social and ethical implications of stem cell research as well as how they understand the science of stem cells. This presentation will review findings of the research that has been conducted by Biotechnology Australia addressing issues relating to public perceptions of stem cell research.

8.45 pm **Questionnaire Forms (CPD Points)**

9.15 pm **Close**

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