Precursor (Progenitor) Stem Cell Therapy:
Applications and case studies in Autism, Down Syndrome, Cerebral Palsy in Children and Chronic and Aging diseases in Adults.

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Learning Objectives:
1. Introduction to the science of allogeneic or xenogeneic precursor stem cell therapy – an evolution of modern cellular therapy established since 1931.
2. A specialised discourse on the clinical application of precursor stem cells for the treatment of chronic aging, genetic, chromosomal and metabolic diseases, as well as for anti-aging and revitalisation.
3. A brief insight on recent case studies and clinical results of precursor stem cell therapy conducted in the Asia Pacific regions including USA and Australia.

Abstract:

Tissue Regeneration with Stem Cell Therapy

Stem Cell Therapy (SCT) is a surgical therapeutic procedure where the implantation of stem cells from live tissue fragments of allogeneic or xenogeneic origin is being carried out preferably in the earlier stages of the disease.

Transplanted cells bring life back by replenishing or repairing the cells of damaged organs. It effectively restores tissues and organs by stimulating the innate repair system of injured cells, activating the growth function of dormant cells and replacing disused, malfunctioned cells.
Considered highly for its multipotency and restorative function, stem cell therapy is an outstanding revolutionary discovery that addresses the multiple functional needs of different vital organs and tissues for the treatment of chronic diseases.

Historical Data of Stem Cell Therapy

A forerunner of modern regenerative medicine, stem cell therapy has been used successfully in clinical practice for over 80 years. Extensive clinical data from patients in Europe, particularly in Germany and Switzerland, has been consolidated over the years, delineating the safety and effectiveness of these cell-based treatments.

A plethora of medical references on stem cell therapy is published on PUBMED and MEDLINE of US National Library of Medicine in the past 15 years. The value of these publications becomes obvious when a great number of patients have been treated with promising results.

A modern regenerative medicine marvel, stem cell therapy offers great promise in the science of cellular regeneration and repair with its continuous research, development and proliferation today.

Multipotent Precursor Stem Cells

Precursor stem cells are partially differentiated stem cells that have already reached the stage of organogenesis. These multipotent and tissue-specific stem cells are therefore committed to follow a predetermined path of differentiation along one lineage only – they divide through cell division to produce new cells specific for the tissue of origin, and follow the body commands. Through the direct stimulation or replacement of the recipient's own malfunctioning cells, these precursor stem cells can deliver regenerative effect by restoring functions to injured, diseased and debilitated tissues and organs – forming the ultimate individualised therapy for tissue regeneration.

Since its introduction into Asia in 2004, there is a record of approximately a thousand stem cell implantations in Kuala Lumpur, Malaysia, and has treated with success more than 90 Down Syndrome patients, 30 plus Cerebral Palsy patients and 30 plus autistic children from Malaysia, Thailand, Indonesia, China, Hong Kong, Taiwan and Kuwait.

Other diseases successfully treated through this method include Diabetes Mellitus Type I and II, Parkinson’s Disease and multiple sclerosis.
Preparation Methodology of Precursor Stem Cells

The patented preparation methodology, Primary Cell Tissue Culture, is a unique cell culturing procedure involving the creation of ideal growth conditions for one cell type of a tissue or an organ which is simultaneously unfavourable for all other cell types of the same tissue or organ deemed useless for the desired therapeutic effect. This preparation is necessary for optimal treatment effect as it prevents an ‘antigenic overload’; an official medical literature by USSR Ministry of Health Regulations in 1984 has reported that immunosuppressant is not necessary if stem cells are prepared by the patented preparation methodology – Primary Tissue Culture.

Three additional samples of tissue culture are prepared during the proprietary Primary Tissue Culture for varying purposes.

**Sample 1:** Cryogenically preserved with Liquid nitrogen for 5 years at the manufacturer’s storage facilities for recording and future reference when necessary.

**Sample 2:** Microbiological testing

**Sample 3:** Bacterial endotoxin test

Therapeutic Options and Implantation Procedures for Precursor Stem Cells

Precursor stem cell therapy comprises two therapeutic options: 1) xenotropic fetal precursor stem cells of rabbit origin, and 2) human autologous precursor stem cells procured and cultured from the patient.

Implantation procedure of these precursor stem cells is determined by the individual physical condition, indication and age of the patient:

1. Implantation by an injection route (or via minor surgery) such as intramuscular, subaponeurotic and intrathecal via lumbar puncture
2. Implantation via major operation
3. Surface application of cell transplants

There are several proven scientific principles that delineate the most fundamental understanding of precursor stem cellular therapy: 1) organ-specificity, 2) homing principle, 3) principle of homology, 4) similarity in genetics, and 5) life cycle of cells. These principles collectively explain the safety of mankind to undergo therapeutic use of precursor stem cells.
Case Studies:

1. Early Dementia - an 84 year old Australian male with his first implantation of 11 Stem Cells in 2009; the significant improvements from the first implantation warranted a second implantation of 14 Stem Cells for him in 2011;

2. Cerebral Palsy - an 11 year old Australian girl with her first implantation of four Stem Cells in 2009 and a second implantation of seven Stem Cells in 2010; significant improvement in her motor skills demonstrated through a video of her walking remarkably with little assistance;

3. Autism - two American male siblings, 5 and 7 years of age, received their implantations in 2009 and 2010; mother’s positive feedback and interview recorded in a video;

4. CHARGE Syndrome - a 9 year old Hong Kong boy who received six separate implantations until 2009; mother’s interview recorded in a video.

References:


DABEVA, M, SEONG-GYU H, VASA SRG, et al. Differentiation of pancreatic progenitor cells into hepatocytes following transplantation into rat liver. Proc Natl Acad Sci USA 1997; 94; 7356-7361