AmLife

life, redefined

- Participated in the stem cell research team directed by UKM
- Served in Kuala Lumpur Hospital, a Malaysian government-owned public hospital
- Graduated from Medical University in Russia
- Regenerative medicine R&D team serves as Chief Medical Director

Dr. Billy Lee Bing Li (MD, MC, MAIC)

Regenerative Medicine Specialist in Stem Cell Therapy

Stem Cell Technology: Regenerative & Anti-Aging

The Vital Role of Stem Cells in Regenerative Medicine

Stem cells play a crucial role in regenerative medicine because they have the unique ability to differentiate into specialized cells, making them a valuable resource for repairing and regenerating damaged tissues and organs. Researchers are exploring the use of stem cells to treat a wide range of medical conditions, including spinal cord injuries, heart disease, and diabetes.

What Are Stem Cells?

Stem cells are special human cells capable of developing into various types of cells, such as those in the heart, liver, kidneys, nerves, fat, and other tissues. These cells are used to replace or repair damaged cells in the body. As we age, the number of stem cells in our body gradually decreases, affecting our body's ability to self-repair.

Stem cells are classified into two types:

1. Hematopoietic Stem Cells (HSC):

- Found in umbilical cord blood, bone marrow, and peripheral blood.
- Primarily used to treat blood-related conditions such as leukemia.
- Can only repair and regenerate three types of blood cells: red blood cells, white blood cells, and platelets.

2. Mesenchymal Stem Cells (MSCs):

- Found in Wharton's Jelly, bone marrow, adipose tissue, and dental pulp.
- Capable of differentiating into various types of cells with extensive repair functions.
- Can repair tissues such as fat, nerves, liver, kidneys, muscles, heart, bones, and cartilage.
- MSCs are often used to treat various conditions like heart disease and strokes.

Are Mesenchymal Stem Cells Safe?

Mesenchymal Stem Cells possess an "immunoprivilege," meaning they are not attacked by the body's immune system, making them non-rejectable and very safe for use. They do not alter our genes. In medicine, stem cells are referred to as "multipotent cells" because of their ability to self-replicate and regenerate tissues and organs without changing the host's genetic makeup.

How Can Stem Cells Help with Health Conditions or Diseases?

The primary function of Mesenchymal Stem Cells is to repair and replace damaged cells in our body. Through a "homing effect," these cells navigate to damaged or aging cells to carry out repair and regeneration, helping to maintain youthfulness, halt disease progression, and restore the functions of tissues and organs.

The efficacy and quality of stem cells are closely tied to the technology and standards of the laboratory. To ensure safety and effectiveness, it is crucial to select laboratories that meet cGMP standards and are certified by national authorities. Only premium labs with stringent controls can provide the safest and most effective stem cell therapy.

Impact of Regenerative Medicine on Health:

- Regenerative medicine is helping to repair damaged organs, such as the heart, brain, and eyes.
- This significantly improves patients' quality of life and health levels, offering limitless possibilities for the development of global medical technology and future medical treatments.