

Editorial Note on Stem Cell Therapy

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Editorial Note

Stem cells are the body's raw materials — cells from which all other cells with specialized functions are generated. Under the right conditions in the body or a laboratory, stem cells divide to form more cells called daughter cells.

Stem cells are special cells produced by bone marrow (a spongy tissue found in the centre of some bones) that can turn into different types of blood cells. The 3 main types of blood cell they can become are: red blood cells – which carry oxygen around the body. Adult stem cells can be isolated from the body in different ways, depending on the tissue. Blood stem cells, for example, can be taken from a donor's bone marrow, from blood in the umbilical cord when a baby is born, or from a person's circulating blood. In multicellular organisms, stem cells are undifferentiated or partially differentiated cells that can differentiate into

Anatomical terminology. In multicellular organisms, stem cells are undifferentiated or partially differentiated cells that can differentiate into various types of cells and proliferate indefinitely to produce more of the same stem cell. They are the earliest type of cell in a cell lineage. As per the report of Global Burden of Disease Cancer Collaboration,

various types of cells and proliferate indefinitely to produce more of the same stem cell. They are the earliest type of cell in a cell lineage. They are found in both embryonic and adult organisms, but they have slightly different properties in each. They are usually distinguished from progenitor cells, which cannot divide indefinitely, and precursor or blast cells, which are usually committed to differentiating into one cell type

cases and 9.6 million cancer deaths were estimated across the world .More than 1.7 million new cancer cases are expected to be diagnosed in 2019. The lung, liver, stomach, and bowel cancers are the common causes of death across the world from 1975 to till date . According to Nagai H, the use of precision medicine, immunotherapy's in the high-income countries made us to decrease the rate of the cancer mortality despite the global incidence rates of cancer increasing from 2005 to till date. From the above information it has been clear that the cancer is being a biggest cause for world's mortality. Many of the scientists across the world are trying to find the more effective treatment and preventive measures in order to reduce the cause of mortality irrespective of any regional and sex difference.

Adult stem cells are found in a few select locations in the body, known as niches, such as those in the bone marrow or gonads. They exist to replenish rapidly lost cell types and are multipotent or unipotent, meaning they only differentiate into a few cell types or one cell type. In mammals, they include, among others, hematopoietic stem cells, which replenish blood and immune cells, basal cells, which maintain the skin epithelium, and mesenchymal stem cells, which maintain bone, cartilage, muscle and fat cells. Adult stem cells are a small minority of cells; they are vastly outnumbered by the progenitor cells and terminally differentiated cells that they differentiate into.