

Stem Cell Therapy to Treat Immune Deficiency

Friday, 16 March 2018 WIB, By: Marwati



Stem cell innovation has raised hopes for patients with immune deficiency disorders.

This was said by researcher from Institut für Transfusionsmedizin Medizinische Hochschule Hannover in Germany, Prof. Dr. med. Stephan Immenschuh, when delivering a guest lecture at Faculty of Biology UGM recently.

Immenschuh said Hematopoietic Stem Cells Transplantation (HSCT) therapy can be done for immune deficiency in newly born babies. HSCT technology is a procedure of stem cell hematopoietic intravenous therapy to rebuild the hematopoietic function in patient with bone marrow disorders or immune system disorder.

“It’s done by harvesting hematopoietic stem cells (HSC) from the bone marrow,” he said.

In the guest lecture themed *Role of Stem Cell in Research and Clinical Treatment*, Immenschuh explained that the basic application of stem cell is to do HSC transplantation in patient with indication of hematologic disorder. This includes acute myeloid leukemia, acute lymphocytic

leukimia, malignant lymphoma and multiple myeloma.

“So, apart from treating hematologic disorders, stem cell therapy can also be used for immune deficiency treatment,” he said.

Immenschuh gives another example of the progress in stem cell technology to treat hereditary immune deficiency diseases, such as Wiskott-Aldrich Syndrome. Another thing is for the re-programming of adult cell into pluripotent stem cell that involves induced pluripotent stem cells (iPSCs).

Due to the high potential of stem cell in clinical treatment, Immenschuh reiterated the need for stem cell continual research to make the outcomes more accessible for patients.

“It’s possible that stem cell can be general treatment for severe hereditary diseases, immune deficiency, heart disorder, etc. Thus, stem cell research has to be done continually,” he said.

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