

CELL & STEM CELL RESEARCH

March 19-21, 2018 | New York, USA

The role of adipose derived mesenchymal stem cells as a treatment in autoimmune disease

Purwati Sumorejo

Asia University, Taiwan

Autoimmune diseases (ADs) are the third most common disease in United States affecting 5 to 8% of population. The major treatment of ADs is immunosuppressive drugs but these are not effective and associated with substantial toxicities. Adipose tissue is one of the most potent and concentrated source of mesenchymal stem cells (MSCs) as an anti-inflammatory and tissue protecting agent which will promote healing and also minimal invasive. This study is conducted in 20 patients with autoimmune diseases in various ages between 22 to 70 years old. Patients were treated with autologous adipose-derived MSCs transplantation through catheterization. The laboratory analysis result of patients before and after MSCs application in 6 months were measured which include haemoglobin (Hb), white blood cells (WBC), erythrocyte sedimentation rate (ESR), protein and blood levels in urine, high sensitivity c-reactive protein (hsCRP), C3 and C4 complement, anti-nuclear antibodies (ANA) and anti-double stranded DNA (anti-dsDNA). MSCs are able to improve the performance of hemoglobin as shown in Hb which showed statistically significant increase ($p=0.002$). MSCs are able to reduce the inflammatory as shown in the number of leukocytes ($p=0.015$) and ESR ($p=0.031$) which showed statistically significant decrease. MSCs can repair the renal function with no presences of protein and blood in patient's urine. MSCs are also able to augment the immune response as shown in hsCRP which statistically significant decrease ($p\leq 0.001$), while C3 and C4 complements statistically significant increase ($p\leq 0.001$). ANA and anti-dsDNA showed a negative result which means MSCs therapy may give a good response to heal the ADs.

Biography

Purwati Sumorejo has finished her General Practition from Airlangga University in 1997. She has completed her studies in Internal Medicine. She is a Specialist (2008) from Airlangga University and also pursued her Doctoral program in Airlangga University from 2010-2012. Her research interest is in stem cell field. Since 2008, she is a Secretary of Stem cell Laboratory of Airlangga University and also Secretary of Surabaya Regenerative Medicine Centre. From 2015, she holds a position of Chairman of Stem Cell Research and Development Centre Airlangga University, Surabaya, Indonesia. She has almost 60 publications in journals, papers and seminars.

purwatipanpan@yahoo.com

Notes: