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Therapeutic potential of autologous stem cell transplantation for cerebral palsy

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Cerebral palsy (CP) is related to many deficits such as mental retardation, epilepsy, physical deformities and the worldwide incidence being 2 to 2.5 per 1000 live births. The exact etiology of CP is poorly understood e.g. Hypoxia at the time of birth, genetic, antenatal infections, and metabolic or traumatic insults. CP was considered as a non-curable, non-reparative disorder but Stem cell therapy has a great potential for treatment of disorder like CP. The purpose of this article is to report the use of autologous bone marrow stem cells (ABMSC's) for CP patients and to check the safety and efficacy. We transplanted 129.6×10^6 ABMSC's intrathecally immediately after enrichment. The second dose of ABMSC's (132.8×10^6) was given seven days after first transplant. The grading of the patient was done with the help of Gross Motor Function Classification System and MACS. CNS examination showed good gross motor movements, power noted in both UL and LL was grade IV. Bowel and bladder control has been achieved. Notable improvement in speech was also noted. Cognitive level social know how was improved. Pre and Post therapy analysis using Colour SPECT showed marked increase in perfusion levels. In conclusion, autologous stem cell transplantation showed significant improvement in Patient's motor function and the method was found to be safe and reasonable.

Biography

Meghnad G Joshi, did Ph.D. from department of Zoology, Shivaji University, Kolhapur, India in 2006. He Joined Karolinska Institute, Sweden as Postdoctoral fellow in 2007-2008 and worked for Sahlgrenska University Hospital, Department of transplantation surgery, Göteborg, Sweden from 2008-2010. In 2009, he was awarded with TTS New Key Opinion leader, Sweden. He has been appointed as a visiting Assistant professor by Kansas medical Center, USA since 2010 till 2012. He has published more than 18 papers. Since 2011, he has joined India's leading stem cell therapy company, StemOne Biologicals Pvt. Ltd., Pune as the Lab director. .