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Autologous Stem Cell Therapy in Spinal Cord Injury - Our Initial Experience

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Background:

Stem Cell Therapy (SCT) although in vogue since the early seventies for Hematological malignancies, is slowly evolving and extending into other fields. In Spinal Cord Injury its indications and uses are still getting refined.

Materials and methods:

In our centre, after extensive review of literature drew up our own inclusion/ exclusion criteria which was approved by our ethics committee. We selected six patients with Dorsal Spinal Cord Injury for this study. Epidemiological and clinical data was collected and Videography of the patient's initial presentation was done. Clinical assessment was carried out by a team of specialist including the Neurosurgeon, Neurologist, Urologist and Physiotherapist.100 ml of Bone marrow harvested from the posterior iliac crest was sent in cold preservation to NCRM, Chennai. Bone Marrow Mono Nuclear cells were isolated and CD34+ cells quantified using FACS. The isolated cells were injected through lumbar puncture. One of the six patients received two sittings of SCT, while all others have undergone only one sitting. The patients were followed on a monthly basis during which regular neurological reassessment was done and domiciliary physiotherapy was also given.

Result:

One patient who was given two sittings of SCT made very good improvement and is now ambulant with the aid of an Orthosis. Two other patients who received one sitting of SCT had objective sensory and mild motor improvement; Three other patients had no improvement. There were no adverse reactions in any of them.

Conclusion:

SCT is an evolving option for Spinal Cord Injury patients and although it is too early to

comment, results as of date show a positive influence. The numbers of variables are many, but the results are promising and definitely warrant further clinical trials.