

## A Prospective Study on the Efficacy of Mesenchymal Stem Cells in Intervertebral Disc Regeneration

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**Abstract :** Removal of inter vertebral disc along with spinal fusion has many disadvantages such as causing stress fractures. If it is possible regenerate the spine it would be possible avoid the complications of the surgery and achieve better results. Our study involves the use of mesenchymal stem cells in regenerating the discs. Our study involved 10 patients who presented with degenerative disc disease between 2008-2011 in our hospital. After adequate pre-operative check prepared mesenchymal stem cells were injected into the disc spaces. These patients were subjected to conservative therapy for a minimum of six weeks before they were accepted into the study. They were followed up regularly for a minimum of 2years with serial radiographs and MRI. 8 out of the 10 patients had completed reduction in the pain. The T2 weighted MRI images in 9 out of the 10 patients showed a bright signal compared the previous Images which indicated that there was improvement in the hydration levels. From the case study of 10 patients who were subjected to mesenchymal cell therapy in our hospital, we can conclude that the use of mesenchymal cells in treatment of intervertebral disc degeneration in a safe and effective option.

**Keywords :** mesenchymal stem cells, intervertebral disc, the spine, disc degeneration

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