

## عنوان مقاله:

Comparison of Repair of Spinal Cord Injury (SCI) Using Bone Marrow Stromal Cell and Monocyte in a Rat SCI Model

## محل انتشار:

مجله علمی پژوهشی دانشگاه علوم پزشکی زنجان، دوره 20، شماره 80 (سال: 1391)

تعداد صفحات اصل مقاله: 10

## نویسندگان:

امیر دایی - *Dept. of Molecular Medicine and Genetic. Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

رضا سالاری نیا - *Dept. of Molecular Medicine and Genetic. Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

علیرضا بیگلری - *Dept. of Molecular Medicine and Genetic. Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

ایرج جعفری انارکولی - *Dept. of Anatomy. Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

سعیده مظلوم زاده - *Dept. of Social Medicine. Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

## خلاصه مقاله:

**Background and Objective:** Subsequent to spinal cord injury (SCI), many pathological changes may occur that could lead to inappropriate conditions for repair. The most important of such changes include the death of neurons, cyst formation, glial scar, and ineffectiveness of monocytes. Adult stem cells and monocytes may provide new strategies to treat SCI. Among various types of candidate cells, bone marrow stromal cells (BMSC) and monocytes are promising because of their potential for neuronal differentiation and repair. In this study, we aimed to compare the effects of BMSC versus monocyte treatments in a rat SCI model. **Materials and Methods:** Rats were divided randomly into three groups of six. The SCI was inflicted using the weight dropping method. The BMSCs and monocytes were injected on the ۴th day of post SCI. Group one included rats receiving normal saline, group two received BMSCs, and group three received monocytes. Following the injections, a Basso, Beattie and Bresnahan (BBB) score test was performed for a period of four weeks. Two weeks before the end of BBB, biotin dextran amine was injected intracerebrally followed by tissue staining at the end of the fourth week. **Results:** There was not a significant difference in the BBB scores between the groups. There were significant differences in axon counting between group one and other groups ( $p < 0.0001$ ). However, there were not significant differences in axon counting between groups two and three. **Conclusion:** BMSCs and monocytes are promising candidate cells for the repair of SCI. In this study, the scoring was carried out for ۴ weeks. It might be better to continue the evaluation for a longer period.

## کلمات کلیدی:

Keyword: Spinal cord injury, Cell therapy, BMSC, Monocyte

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1191372>

