

Abstract

Original Article

Does Intramuscular Injection into Paralyzed Tissue in Rats Alter the Absorption of Drugs? An Experimental Multidisciplinary Study

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Abstract

Aim: This study examined if there was altered absorption of a drug administered by intramuscular injection into paralyzed tissue in rats with sciatic nerve injury.

Materials and Method: In this experimental study 16 female Sprague Dawley rats (250–300 gr) and diclofenac sodium as drug were used. The rats were randomly divided into two groups. Axonotmesis was caused by clamping the rats' sciatic nerves. Seven days after sciatic nerve trauma, drug were injected into the biceps femoris muscles of the two groups of rats. In the experimental groups of rats the paralyzed muscles were used. At the end of the experiment, blood samples were collected from the rats' heart and the maximum plasma concentration levels of drug were measured.

Results: The mean drug plasma concentrations levels of the experimental group was 8.84 µg/ml and the control group was 9.46 µg/ml. There was no significant difference between experimental group and control group terms of drug levels in plasma.

Conclusion: Intramuscular injection into paralyzed tissue in rats does not alter the absorption of a drug.

Keywords: intramuscular injection, nursing, paralysis, sciatic nerve injury, drug absorption.