

ABSTRACT

mRNA EXPRESSION OF VOLTAGE-DEPENDENT CALCIUM CHANNEL $\alpha_2\delta$ -1 SUBUNITS IN SPINAL CORD OF MICE WITH PACLITAXEL INDUCED NEUROPHATY PAIN

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Paclitaxel has mechanism to inhibiting disassembly of tubulin from microtubule polymere, also improve Substance P and calcitonin gene-related peptide (CGRP) in plasm and bronchoalveolar lavage fluid. Generally, voltage-dependent calcium channel (VDCC) is one of the most important Ca^{2+} regulators in neurons, including physiological nociception and chronic pain/neuropathy. The presence of a chemotherapy drug may alter expression of the VDCC $\alpha_2\delta$ -1 subunits in the dorsal root ganglion (DRG) and possible alteration of $\alpha_2\delta$ -1 subunit expression in spinal cord. The groups consisting of the control group and the neuropathic pain group model induced 12 mg/Kg of paclitaxel. Mice were sacrifice every week, i.e. 1, 2, and 3 weeks after paclitaxel injection, then spinal cord (L_{4-6}) were taken. After obtaining spinal cord, total RNA was extracted, then converted mRNA to cDNA and amplified with polymerase chain reaction (PCR) to obtain PCR product. PCR product was applied in a 1,7% agarosa gel. Samples separated on 1,7% agarose gel and visualized with Ethidium Bromide. Then documented with Gel Documentation under UV light to see the sample band. The results of the study there were $\alpha_2\delta$ -1 mRNA expression in spinal cord induced 12 mg/Kg BB paclitaxel and upregulated in spinal cord after injection of 12 mg/Kg BB paclitaxel in the third week.

Keywords: Paclitaxel, mRNA expression, Voltage-Dependent Calcium Channel $\alpha_2\delta$ -1 subunits, Polymerase Chain Reaction (PCR)