

ABSTRACT

The Role of Cdk5 and TRPV1 on Meloxicam Resistance Signal Transduction of Rat Experiencing Chronic Pain

Mohammad Fathul Qorib

Background. Chronic pain is a common case and become a serious problem. Chronic pain management are inconclusive. One of the common treatment option is NSAID. Treatment Failed are around 34-79% of total case. These treatment failed suspected as NSAID resistance. Treatment failed can be caused by a some molecule that make NSAID loss of efficacy. Cdk5 is one of the molecule that active in chronic pain condition. Cdk5 can increase transmembrane insertion and activate TRPV1.

Objective. The aim of this research is analyzed the role of Cdk5 and TRPV1 in NSAID resistance of chronic pain rat.

Method. This research used 42 Wistar rats as a subject and divided into 6 groups with random allocation method and factorial design. Meloxicam treatment was given orally every day for 7 days after rats have a chronic pain (28 days). Chronic pain induction used a CFA injection.

Results. Cdk5 and TRPV1 expression at the dorsal root ganglia of chronic pain groups are increase. Cdk5 and TRPV1 expression are highest in the chronic pain with meloxicam (dose I) treatment group. No significant different of pain threshold and inflammation sign between treatment and no treatment groups after chronic pain occurred.

Conclusion. Chronic pain can induce Cdk5 and TRPV1 expression, and induced by meloxicam treatment. Cdk5 and TRPV1 have a positive correlation with meloxicam resistance.

Key Words : Chronic pain, Cdk5, TRPV1, Meloxicam resistance