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CHANGE OF IL-1 CONCENTRATION AND INTRACELLULAR CALCIUM (CA2+ IC) AS AN INDICATOR OF INCREASED BITTER TASTE IN THYPOID FEVER

Abstract

Homeostatic changes in the body, such as fever, causes inflammation. One of its impacts is the sense of bitterness inside mouth. It implies in the reduction of appetite, which may finally result in the reduction of physical condition due to inadequacy of food intake. It causes the inhibition of healing process, which reduces working productivity. The objective of this study was to identify the mechanism of bitterness due to inflammation, as proved locally in the taste buds of Wistar rats. This study was carried out experimentally using post-only control design in experimental animals of male rat (Rattus norvegicus) of Wistar strain. The animals were divided into two groups: first group as control and the second group received treatment with Salmonella typhimurium 0.5 ml/kgBW similar with Mc Faland III. Blood sample were taken for counting the Interleukin 1 (IL-1) concentrations in Elisa methods and tongue excision used for counting the value of calcium intracellular (Ca2+ ic) in immunohistochemical staining. Data were analyzed using Kolmogorov-Smirnov test for normality data, and comparative test. From the result, it was found that there was an increase of biological response of signaling transduction of bitterness in taste buds, as indicated from increased value of Ca2+ ic in treatment group or inflammatory fever condition as compared to control group (p<0.05), but none in IL-1 concentration, meaning that there is transduction of bitter taste caused increased Ca2+ ic.

Keyword : typhoid, fever, taste, buds, IL-1, , Ca2+,

Daftar Pustaka :