ANTI-OSTEOPOROTIC ACTIVITY OF Apis dorsata FOREST HONEY COMPARSED TO Apis mellifera CULTIVATED HONEY ON OVARIOHYSTERECTOMIZED RAT (Rattus norvegicus)

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ABSTRACT

The aim of this study was to observe the efficacious of honey as anti-osteoporotic effect on ovariohysterectomized rats and to observe the difference between honeys produced by Apis dorsata compared to Apis mellifera. Twenty four female rats were adapted for 2 weeks in experiment environment and divided into 8 groups (SH, OH, AD-1, AD-2, AD-3, AM-1, AM-2, AM-3). Ovariohysterectomy were conducted on 15th day under surgical procedure for all groups except SH which is sham operated. Rats were treated with honey solution post ovariohysterectomies. Honey solutions of Apis dorsata were given to AD-1 (1g/Kg BW), AD-2 (2g/Kg BW), and AD-3 (4g/Kg BW). Honey solutions of Apis mellifera were given to AM-1 (1g/Kg BW), AM-2 (2g/Kg BW), and AM-3 (4g/Kg BW). Honey that solved in 1,5 ml aquadest were given orally for 84 days. At the 85th day, rats were euthanized and os vertebrae lumbar I was dissected out to prepared Scanning Electron Microscope (SEM). The results suggest, there was a difference between SH group than OH. SEM images of Apis dorsata treatments were observed that AD-3 has the most minimum porosity than AD-1 and AD-2 which found several porosity at the ventral part of bone. SEM images of Apis mellifera treatments were found that AM-3 has the most minimum porosity than AM-1 and AM-2 groups. The comparison between honey produced by Apis dorsata and Apis mellifera suggested that Apis mellifera honey was better than Apis dorsata. Porosity distribution was found at the medial of dorsal, medial of ventral and turned to superficial.

Key words: Honey, Osteoporosis, SEM.