ABSTRAK

EFFECT OF MORINGA OLEIFERA LEAVES EXTRACT ON INSULIN LEVEL AND FOLLICULOGENESIS IN POLYCYSTIC OVARY SYNDROME FEMALE RAT MODEL WITH INSULIN RESISTANCE

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Insulin resistance was a common metabolic disorder in PCOS. Moringa oleifera has been shown to increase insulin expression and decrease the degree of insulin in diabetes mellitus so it is expected that Moringa oleifera can decrease insulin levels and increase folliculogenesis in PCOS. The purpose of this study to prove the effect of Moringa oleifera leaf extract in various doses may decrease insulin levels and increase folliculogenesis in PCOS female rats with insulin resistance. Methods of this study were female rat Wistar strain (Rattus norvegicus) aged 3 months and weight 100-130 grams were randomly divided into five groups (n = 8): negative control group, positive control group (SOPK model with insulin resistance), metformin group, Moringa oleifera extract group 250 mg / KgBB and 500 mg / KgBB. PCOS model with insulin resistance by injection of testosterone propionate (1 mg / 100gBB, i.m) for 28 days and treatment with metformin and Moringa oleifera leaf extract was administered orally for 14 days. After treatment, blood was taken for analysis of insulin levels and ovarian removal for measured folliculogenesis. The results of this study were the PCOS control group showed significant increase (p <0.05) insulin levels (16.91 ± 3.75) compared to the negative control group (12.92 ± 1.42). Treatment with Moringa oleifera leaf extract of 250 mg / kgBB significantly (p <0.05) lowered insulin levels (11.79 ± 1.26) compared to PCOS control group. Examination of ovarian histology was seen in the number and diameter of follicle of PCOS control group showed significant decrease (p <0.05) compared with negative control group. Treatment with metformin and Moringa oleifera leaves dose 250 mg / kgBB and 500 mg / kgBB showed significant increase of folliculogenesis (p <0.05) compared to PCOS control group. The conclusion of this study showed that Moringa oleifera can reduce insulin levels in the blood so that it can be followed by androgen decrease that allows increased folliculogenesis in PCOS.

Keywords: Polycystic ovary syndrome, Moringa oleifera, insulin level, folliculogenesis