INFLUENCE OF POMEGRANATE EXTRACT (Punica granatum L.) ON IMPROVEMENT OF PERCENTAGE OF SPERMATOZOA CAPACITATION AND ACROSOME REACTION OF WHITE RAT (Rattus norvegicus)

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ABSTRACT

The aim of this research is to know the effect of pomegranate (Punica granatum L.) on the improvement of spermatozoa quality that is increase of percentage of capacitation and acrosome reaction in white rat (Rattus norvegicus). This research used 20 healthy white rat (Rattus norvegicus) with average age 2-3 months old, 200-300 g. Research design using completely randomized design (CRD) with four treatments and 5 replications. Rats were randomly divided into 4 treatment groups. Rat in the negative control group not treated just kept alone, solvent control group were given CMC Na 0,5% and is exposed to heat, the treatment groups 1, 2, and 3 induced pomegranate extract standardized to 40% ellagic acid at a dose of 75mg / kg, 150mg / kg and 300mg /kg perorally with doses 1 ml/rat/day gastric for along 14 days and exposed to heat. Data were analyzed using One Way Analysis of Variant (ANOVA) followed by Duncan (p<0,05). The result showed that there was significant effect from therapy on the quality of rats spermatozoa especially to capacitation and acrosome reaction. The treatment from treatment 2 group showed the best result in maintaining the quality of rats spermatozoa with 27.6± 3.04 values for capacitation and 6,80 ± 1,30 for acrosome reactions. Extract of pomegranate (Punica granatum L.) standardized to 40% ellagic acid has a significant change in improve the quality of spermatozoa, namely an increase in the percentage of capacitation and acrosome reactions in white rats (Rattus norvegicus) exposed to heat.

Keyword : Pomegranate extract, Capacitation, Acrosome Reaction