

ABSTRACT

The Influence of giving "Fatimah" Grass (*Anastatica Hierochuntica L*) Extract on the Expression of Estrogen Receptor (ER α) of Pregnant Mice (*Mus Musculus*) Myometrial Cells

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The purpose of this research is to observe the influence of giving "Fatimah" grass (*Anastatica hierochuntica L*) extract on the expression of estrogen receptor (ER) α in the myometrium cells of pregnant mice.

This research was laboratory experimental with *the randomized post test only control group design*. The sample of this research was female mice (*Mus muschulus*) galur BALB/C adult at the age of 12-14 weeks, the body weight was 20-30 and in a good condition (active movement). The sample was taken by complete randomized allocation from the research animal breeding unit of Pharmacy faculty laboratory of Unair, after getting the sample, the process of pregnancy was made, then as many as 30 pregnant female mice (*Mus muschulus*) were taken randomly and they were divided into 5 group so that each group consisted of 6 mice. Group 1 was as negative control group given CMC Na 0.5% per sonde as long as 7 days. Group 2 was as positive control group given valerat estradiol solution with the dosage of 5 mg/kg body wt/day per sonde as long as 7 days. Group 3,4,5 were as treatment group given extract solution of Fatimah grass (*Anastatica hierochuntica L*) with each dosage of 50 mg/kg body wt/day, 100 mg/kg body wt/day and 200 mg/kg body wt/day, the extract was given per sonde as long as 7 days. After the treatment process, the surgeries of the samples were done, and the tissues of the uterus were taken. The uterus tissues were designed as the form of preparat to see the amount of estrogen receptor α in the myometrium stroma of pregnant mice (*Mus musculus*) by examining immuno-histochemical and being compared with control group.

The research result shows that the average score and standard deviation of estrogen receptor expression is in the group K1: 20.73 ± 21.49 ; K2: 114.60 ± 56.50 ; K3: 43.93 ± 41.33 ; K4: 75.93 ± 27.55 ; and K5: 49.83 ± 44.72 ; with $p = 0.006$ ($p < 0.05$), this means there are significant differences in the data of estrogen receptor (ER) α expression between those five groups. If it is compared with negative control group (K1) with the supplying of CMC Na 0.5% by the sonde, in the K3, K4 group, and in K5, there is increasing of average in each receptor expression as 23.2, 55.2 and 29.1 and based on Anova statistics test, the average difference of estrogen receptor α expression of those four group is significantly different ($p=0.006$).

It is concluded that estrogens receptor (ER) α expression in the myometrium cells of pregnant mice (*Mus musculus*) in the treatment goup (Fatimah grass extract) is higher if it is compared with control group (CMC Na 0.5%) and there is a difference in estrogens receptor (ER α) expression of pregnant mice (*Mus musculus*) myometrium cells with the control (CMC Na 0.5% and estradiol) and treatment group (Fatimah grass extract).

The next researchs about Fatimah grass extract need to be done by considering the duration and the age of the experimental animal pregnancy and seeing how big the effect of toxin in the pregnancy is.

Key words: Fatimah grass extract, estrogenic activity, estrogens receptor α expression