Efek dari Stimulasi Ovarium Terkendali Terhadap Ekspresi Glikodelin-A pada Jaringan Endometrium Macaca nemestrina Fase Midluteal = Effects of Controlled Ovarian Hyperstimulation on the Expression of Endometrial Tissue Glycodelin-A During Midluteal Phase of Macaca nemestrina

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Abstrak

Latar Belakang: Salah satu prosedur dalam fertilisasi in vitro (FIV), yaitu stimulasi ovarium terkendali (SOT), dapat mengurangi reseptivitas dari endometrium. Hal ini disebabkan oleh administrasi dari recombinant follicle stimulating hormone (r-FSH), yang akan menyebabkan tubuh untuk melepaskan beberapa folikel disaat yang bersamaan (supervoulasi). Kondisi ini dapat mempengaruhi ekspresi dari glikodelin-A (GdA), yang memiliki peran dalam mempersiapkan endometrium dalam proses implantasi.

Tujuan: Mengetahui pengaruh pemberian berbagai kadar r-FSH dalam prosedur SOT pada ekspresi glikodelin-A pada berbagai kompartemen jaringan endometrium dari hewan Macaca nemestrina (beruk).

Metode: Penelitian ini menggunakan jaringan uterus beruk yang tersimpan di dalam blok parafin. Subjek dari penelitian ini terdiri dari 15 beruk betina yang berada di dalam usia reproduksi, sekitar 8-10 tahun, dan telah melahirkan sebelumnya. Subjek kemudian dibagi menjadi empat kelompok; kelompok kontrol yang tidak dilakukan administrasi r-FSH, dan juga kelompok uji yang diberikan administrasi r-FSH dengan berbagai kadar (30, 50, dan 70 IU) sesuai dengan protokol SOT. Jaringan kemudian akan diberi pewarnaan immunohistokimia, dan ekspresinya diukur menggunakan plugin IHC Profiler dari perangkat lunak ImageJ, dimana hasil pengukuran berupa Histological Score (H-Score). Hasil tersebut kemudian dianalisis secara statistik dengan ANOVA satu arah.

Hasil dan Pembahasan: Hasil analisis ANOVA satu arah menunjukkan bahwa perbedaan ekspresi GdA di kelenjar ($F(3,10) = 0,80$, $p = 0,52$) dan stroma ($F(3,11) = 0,92$, $p = 0,47$) endometrium antar kelompok tidaklah signifikan, dan variasi data di dalam kelompok lebih besar dibandingkan antar kelompok . Ekspresi GdA memiliki variasi perbedaan antar kelompok lebih tinggi, namun tidak signifikan ($F(2,8) = 1,80$, $p = 0,23$). Hasil ini dapat disebabkan oleh; Ekspresi GdA yang tidak dipengaruhi secara langsung oleh administrasi r-FSH, perbedaan fase antar sampel, dan juga jumlah sampel yang kecil.
.....Background: One of the crucial steps of in vitro fertilization (IVF), the controlled ovarian hyperstimulation (COH), may decrease the receptivity of endometrial tissue. This is due to the administration of recombinant follicle stimulating hormone (r-FSH), which aims to make the body to release multiple follicles at the same time (superovulation). This can alter the expression of Glycodelin-A (GdA), which has a role in preparing the endometrial tissue to go through the implantation process.

Objective: To find out the effects of different r-FSH dosages administration during COH protocol on glycodelin-A endometrial tissue compartments expression in Macaca nemestrina (southern pig-tailed

macaque).

Methods: Paraffin-embedded tissue blocks of macaques uterus were used for this study. The subjects that were included consist of 15 female macaques, all on reproductive age of 8-10 years and have given birth beforehand. The subjects were then divided into four groups; the control group were those who had not been administered with r-FSH, and those who had been administered with different dosages of r-FSH (30, 50, and 70 IU) in accordance to the COH protocols. The tissues were then stained using immunohistochemistry, and the expressions were measured using the plugin IHC Profiler of the ImageJ software, where the result of the measurement were in Histological Score (H-Score). The result were then statistically analysed using one-way ANOVA.

Results and Discussion: The result of one-way ANOVA showed, that the differences of glycodelin-A expression in the endometrial glands ($F(3,10) = 0.80$, $p = 0.52$) and stromal parts of the tissue ($F(3,11) = 0.92$, $p = 0.47$) between the groups were insignificant, the variance of data among the groups were larger than between the groups. Glycodelin-A expression in the four groups of luminal parts however, have higher variances between the groups than among the groups, but the differences were insignificant ($F(2,8) = 1.80$, $p = 0.23$). This result were caused by; The expression of GdA which is not directly affected by the administration of r-FSH, different phases of each samples, and also the low number of samples.