Pengaruh penambahan antioksidan glutathione pada medium maturasi oosit domba garut (ovis aries) terhadap kualitas oosit pascakriopreservasi dengan metode slow freezing = The effect of glutathione antioxidant in garut sheep (ovis aries) oocyte maturation medium to oocyte quality after cryopreservation with slow freezing method

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Abstrak

Penelitian mengenai pengaruh penambahan antioksidan glutathione GSH pada medium maturasi oosit domba garut pascakriopreservasi dengan metode slow freezing telah dilakukan sejak Maret hingga Mei 2018. Penelitian bertujuan untuk mengetahui pengaruh penambahan GSH pada medium maturasi oosit terhadap jumlah oosit matur. Oosit dimatangkan dalam medium TCM-199 yang diberi penambahan GSH sebanyak 0 mM, 0,5 mM, 1 mM, dan 1,5 mM, kemudian dibekukan menggunakan metode slow freezing dengan suhu seeding -7oC. Oosit matur ditunjukkan oleh terbentuknya badan polar I dan atau terjadinya ekspansi sel kumulus. Data viabilitas oosit pascakriopreservasi diperoleh dengan menggunakan pewarna fluorescence Hoechst/PI, sedangkan data kualitas oosit pascakriopreservasi diperoleh berdasarkan morfologi oosit.
Hasil penelitian menunjukkan penambahan antioksidan GSH pada medium maturasi oosit secara statistik berpengaruh nyata P le;0,05 pada data oosit matur. Data hasil viabilitas dan kualitas oosit pascakriopreservasi oosit hasil maturasi in vitro dengan metode slow freezing tidak berpengaruh nyata secara statistik P>0,05 antarkelompok perlakuan. Kesimpulan penelitian penambahan GSH pada medium maturasi oosit domba garut secara statistik berpengaruh positif terhadap jumlah oosit yang matur.
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The study on the effect of the addition of antioxidant glutathione GSH on Garut sheep rsquo s oocyte maturation medium after cryopreservation with slow freezing method has been done since March to May 2018. The study was conducted to determine the effect of the addition of GSH on medium maturation towards the percentage of mature oocyte. Oocytes were matured in a TCM 199 which added GSH of 0 mM, 0,5 mM, 1 mM, and 1,5 mM, then frozen using the slow freezing method and the seeding temperature used was 7oC. The mature oocyte indicated by the formation of polar body I and or the expansion of cumulus. Data of viability oocytes after cryopreservation was obtained by using Hoechst PI fluorescence dye, whereas data of quality oocytes after cryopreservation was obtained based on oocyte morphology.
The results showed that the addition of GSH antioxidant in oocyte maturation medium significantly affect P le 0,05 The result data of viability and quality of oocytes after cryopreservation of in vitro oocyte maturation by slow freezing method did not significantly affect P 0.05 statistically among treatment groups. The conclusion of the study is the addition of GSH on maturation oocyte garut sheep medium does have a positive effect statistically on the number of mature oocytes.