Pengaruh penambahan antioksidan glutation pada medium maturasi oosit domba Garut (ovis aries) terhadap kualitas oosit pascavitrifikasi = The effect of addition glutathione antioxidant on maturation medium to the quality of Garut sheep (ovis aries) oocytes after vitrification

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Abstrak

Sebuah penelitian telah dilakukan dengan menambahkan antioksidan glutathione pada pematangan sedang oosit domba garut. Penelitian dilakukan untuk mengevaluasi penambahan glutathione antioksidan dalam medium pematangan hingga kualitas oosit hingga postavitrifikasi. Sebanyak 129 oosit A dan B berkualitas matang di dalam in vitro Media TCM-199 ditambahkan dengan antioksidan glutathione dengan konsentrasi 0 mM (KK); 0,5 mM (KP1); 1 mM (KP2); dan 1,5 mM (KP3). Oosit matang kemudian di vitrifikasi menggunakan kombinasi cryoprotectant 15% etilen glikol dan 15% dimetil sulfoksida. Evaluasi oosit dilakukan setelah 7 hari penyimpanan dalam cairan nitrogen (-196 ° C), termasuk kematangan oosit berdasarkan keberadaan benda polar, morfologi oosit, dan viabilitas oosit menggunakan pewarna Hoechst dan propidium iodide. Berdasarkan hasil penelitian, persentase yang diperoleh setelah postaturasi oosit matang adalah 0 mM (53,13%); 0,5 mM (55,88%); 1 mM (59,38%); dan 1,5 mM (67,74%). Persentase normal oosit pasca-vitrifikasi yaitu 0 mM (56,25%); 0,5 mM (64,71%); 1 mM (71,88%); dan 1,5 mM (87,10%). Persentase oocytrification hidup adalah 0 mM (56,25%); 0,5 mM (67,65%); 1 mM (71,88%); dan 1,5 mM (87,10%). Hasil uji statistik ANAVA data yang diperoleh tidak berbeda secara signifikan antara kelompok (P> 0,05), namun grafik Persentase menunjukkan pola yang cenderung meningkat dengan penambahan konsentrasi antioksidan glutathione. Kesimpulan dari penelitian berdasarkan hasil yang diperoleh yaitu penambahan antioksidan glutathione ke media pematangan dapat menjaga kualitas oosit ke post-trivirifikasi walaupun tidak signifikan.
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The study has been done by adding the antioxidant glutathione to the medium maturation of arrowroot sheep oocytes. The study was conducted to evaluate the addition antioxidant glutathione in the medium of maturation to oocyte quality up to postavitrification. A total of 129 quality A and B oocytes were matured in vitro inside
TCM-199 medium added with antioxidant glutathione with a concentration of 0 mM (KK); 0.5 mM (KP1); 1 mM (KP2); and 1.5 mM (KP3). A mature oocyte then vitrified using a cryoprotectant combination of 15% ethylene glycol and 15%
dimethyl sulfoxide. Oocyte evaluation is carried out after 7 days of storage in nitrogen liquid (-196 ° C), including oocyte maturity based on the presence of polar bodies, morphology oocytes, and oocyte viability using Hoechst and propidium iodide dyes. Based on the results of the study, the percentage obtained after postaturation of mature oocytes is 0 mM (53.13%); 0.5 mM (55.88%); 1 mM (59.38%); and 1.5 mM (67.74%). Percentage normal post-vitrified oocytes ie 0 mM (56.25%); 0.5 mM (64.71%); 1 mM (71.88%); and 1.5 mM (87.10%). The percentage of live oocytrification was 0 mM (56.25%); 0.5 mM (67.65%); 1 mM (71.88%); and 1.5 mM (87.10%). ANAVA statistical test results the data obtained did not differ significantly between groups (P> 0.05), however Percentage graphs show patterns that tend to increase with

addition concentration of antioxidant glutathione. Conclusions of the study based on the results obtained namely the addition of glutathione antioxidants to the maturation medium can maintain the quality of the oocyte to the post-trivirification although not significant.