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Effect of Lycopene on Level of Malondialdehid (MDA) in Preeclampsia-Induced Placental Trophoblast Cells

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Abstract : Preeclampsia is a mjor cause in both maternal and perinatal mortality and morbidity. Underlying mechanism of preeclampsia remains unclear. It is assumed that preeclampsia is caused by imbalance in free radicals and antioxidant in blood and placenta. Lycopene, known to possess antioxidant properties, is therefore a promising agent to decrease preeclampsia risk. This study aimed to observe lycopene on MDA level in placental trophoblast which is induced by preeclampsia *in vitro*. Level of MDA was measured with TBARS (*thiobarbituric acid-reactive substances*). In preeclampsia-induced trophoblast, MDA level significantly reduced ($p<0,001$) from 18,8923 μM to 8,5773 μM after treated with lycopene of 31,25 μg/ml incubated for 24 hours, and from 18,899 μM to 8,6671 μM after incubation for 48 hours. Lycopene possess high antioxidant and antiangiogenesis that plays role as precursor in scavenging reactive oxygen and reduce free radicals that recover trophoblast cells induced by preeclampsia as indicated by decrease in MDA level. Further studies regarding the optimal concentration of lycopene on embryo cell for clinical trial, are encouraged.
Keywords : lycopene, MDA, preeclampsia.

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