

## P162. Association of coenzyme Q10 with premature ovarian insufficiency

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**Objective:** The aim of the study was to analyze the relation between levels of CoQ10 and the risk of POI.

**Methods:** In this cross-sectional case-control study, 32 women with premature ovarian insufficiency and 58 women with normal menstrual cycles were recruited between December 2014 and May 2017 in Zhejiang, China. The serum levels of follicle-stimulating hormone (FSH), luteinizing hormone (LH), anti-Müllerian hormone (AMH), coenzyme Q10 and total cholesterol were measured for each participant. The association of CoQ10 with POI was accessed using binary logistic regression analysis.

**Results:** The coenzyme Q10/total cholesterol ratio was significantly decreased in the women with POI compared to the women with normal menstrual cycles ( $120.94 \pm 25.35$  nmol/mmol vs  $138.97 \pm 39.19$  nmol/mmol,  $P = 0.021$ ). Serum coenzyme Q10/total cholesterol ratio was inversely associated with POI (the unadjusted odds ratio (OR) = 0.984, 95% CI: 0.970 - 0.998,  $P = 0.027$ ). The same trend was found after adjusting for confounding factors (such as age, body mass index, annual household income and education) (OR = 0.976, 95% CI: 0.956 - 0.996,  $P = 0.020$ ).

**Conclusions:** The serum coenzyme Q10/total cholesterol ratio was inversely associated with the risk of POI, which indicates that the deficiency of antioxidants may be a risk of developing POI. Coenzyme Q10 may be a protective factor for ovarian tissue.

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