

P247. Lower levels of serum vitamin D are in correlation with reduced ovarian reserve

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Context: There are many contradictory data about the correlation between lower levels of vitamin D and reduced ovarian reserve. It is known that vitamin D plays an important role in modulation of autoimmune response through its receptors in targeted tissues, such as ovarian. Anti-Müllerian hormone (AMH) is considered nowadays as an independent and reliable bio-marker of ovarian reserve, as it is secreted from the recruited antral ovarian follicles. Is there an important protective role of vitamin D in ovarian reserve, future large trials are to investigate.

The objective was to find the correlation between levels of serum vitamin D with reduced ovarian reserve.

Methods: In women with reduced ovarian reserve (inclusion criteria were serum level of AMH between 0.3 and 1.2 ng/ml, taken any day of menstrual cycle; normal ovarian volume and reduced antral follicle count), the levels of serum vitamin D have been measured. In statistical analysis, median value was calculated for each parameter due to the small sample for analysis. Spearman test was used for correlation.

Patient(s): Ten women with median age 35 years (from 32 to 39 years) with reduced ovarian reserve (median AMH 0.77 ng/ml (0.6-1.18 ng/ml)), without family history of premature ovarian failure and without previous pregnancy were included.

Intervention(s): Level of serum 25(OH)vitamin D was measured in included participants. The levels below 75 nmol/l have been considered as lower.

Main Outcome Measure(s): Primary outcome was to find the correlation between reduced ovarian reserve (measured by level of serum AMH) and levels of serum vitamin D.

Result(s): Median level of serum vitamin D was 47.99 nmol/l (range from 41.84 to 66 nmol/l). We have found that there was highly significant statistical correlation between levels of serum AMH and serum levels of vitamin D ($\rho=0.995$, $p<0.01$).

Conclusions: High statistical correlation indicates that lower levels of serum vitamin D may play a role in reduced ovarian reserve. In perspective, the larger trial may come to more certain data about the correlation, as well as about the potential vitamin D role in the improvement of ovarian reserve.

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