

# Evaluation of ovarian reserve in terms of ovarian volume, antral follicle count and hormonal tests in Hashimoto's thyroiditis

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## OBJECTIVES

Ovarian reserve is very important in reproductive women for menstrual regularity and for pregnancy development. In women of reproductive age the prevalence of hypothyroidism ranges from 2% to 4% [1,2]. In this age group, Hashimoto's thyroiditis (HT) is the most common cause of hypothyroidism [3]. Hypothyroidism is associated with a broad spectrum of reproductive disorders. Additionally, HT may be associated with autoimmune diseases that cause ovarian dysfunction like premature ovarian failure. Our aim is to investigate whether ovarian reserve is decreased in patients with euthyroid HT.

## METHODS

Our study included 110 euthyroid HT patients and 72 age matched healthy women (controls; C). In all patients FSH, LH E2, and P levels were measured from blood samples, and ovarian volumes (OV) and antral follicle count (AFC) were measured using ultrasonography at 3rd day of menstruation.

## RESULTS

No statistically significant difference was detected in FSH, LH, E2 and P levels between groups (p value respectively; 0.117, 0.420, 0.941, 0.644). Total ovarian volumes were not statistically different between groups (p=0.165). Total AFC were significantly lower in the HT group than the controls (p<0.001). Total AFC were strongly and negatively correlated with AntiTPO (r=-0.215, p=0.004) and AntiTg (r=-0.251, p= 0.001) (Table 1).

Table 1. Summary of the hormonal and ultrasonographic parameters of the study and control groups

| Variables                         | HT          | C           | P      |
|-----------------------------------|-------------|-------------|--------|
| Age (year)                        | 34,75±7,1   | 33,15±7,5   | 0.196  |
| BMI (kg/m <sup>2</sup> )          | 27,80±5,4   | 30,61±6,0   | 0.001  |
| TSH (mIU/L)                       | 2,47± 1,7   | 1,95± 1,1   | 0.002  |
| T4 (ng/mL)                        | 1,2± 0,2    | 1,16± 0,1   | 0.517  |
| Anti-TPO (IU/mL)                  | 380,2± 81,7 | 25,60± 16,6 | <0.001 |
| Anti-Tg (IU/mL)                   | 429,5±118,5 | 24,77±1,2   | <0.001 |
| FSH(IU/ml.)                       | 7,44± 5,0   | 6,37± 4,0   | 0.073  |
| LH(mIU/mL)                        | 7,12± 5,0   | 6,45± 5,6   | 0.177  |
| FSH/LH                            | 1,22± 0,6   | 1,21±0,6    | 0.744  |
| E2(pg/mL)                         | 76,57± 81,9 | 75,80± 58,8 | 0.271  |
| P(ng/mL)                          | 0,82± 1,3   | 0,94± 1,6   | 0.565  |
| Ovarian volume (cm <sup>3</sup> ) | 16,18± 5,6  | 17,41± 5,8  | 0.148  |
| AFC                               | 12,96± 5,4  | 16,74± 5,8  | <0.001 |

## CONCLUSIONS

Our study showed that women with HT who are euthyroid have low antral follicle numbers than healthy controls although they have similar LH, FSH, E2, and P levels and ovarian volumes.

## REFERENCES:

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