

Comparison of Serum Level of Anti-Mullerian Hormone in Fertile and Infertile Women in South West Nigeria

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ABSTRACT

Background: Serum anti-Mullerian hormone (AMH) is solely produced in the human ovary by the granulosa cells and is considered as a better biomarker both quantitatively and qualitatively in the evaluation of ovarian reserve compared with FSH, LH, and Estradiol. This study was designed to compare serum AMH level in fertile and infertile women in South West Nigeria.

Methodology: Sixty-four participants who presented for infertility treatment were consecutively recruited into the study, while another Sixty-Four participants who presented at family planning clinics for contraception and women at the Infant Welfare clinic who brought their children for immunization as controls.

Results: The mean value of serum AMH in the subjects was 2.66 ± 4.23 ng/ml which is significantly lower ($p < 0.001$) compared with (10.32 ± 5.85 ng/ml) in the control group. The FSH was also significantly elevated ($p = 0.028$) in the subjects (13.00 ± 18.03 UI/l) compared with the controls (7.96 ± 2.1 UI/l). The mean serum Estradiol of (60.30 ± 76.05 pg/ml) for the subject was significantly elevated ($p = 0.003$) compared with control (30.37 ± 18.55 pg/ml). There was a negative correlation between serum level of AMH and age of subjects ($r = -0.032$), and duration of infertility ($r = -0.155$) and were not statistically significant.

Conclusion: In this study, the serum AMH level was significantly lower in the infertile women than in the fertile women. AMH could be considered as a marker for assessing the ovarian reserve in women at any time, as it is cycle independent compared with the other hormones like FSH.

Keywords: AMH, FSH, Infertility, Menstrual cycle

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