

Serum Anti-Mullerian Hormone (AMH) and Antral Follicle Count (AFC) in relation to different age is a better predictor of Ovarian Reserve

Introduction

- * AMH and AFC are the most utilised ovarian reserve markers used in the treatment of infertility
- * Studies indicate that young women with low ovarian reserve markers may experience a decline in fertility causing a shift towards premature ovarian failure or early menopause (Islam et al 2023).

Objective

- * To investigate the proportion of young infertile women with a low ovarian reserve and to make age-specific percentile charts of AMH and AFC amongst such women.

Materials and Methods

- * **Inclusion Criteria:** Infertile women (n = 448); age group 21-44 y; BMI:18.5–24.9 kg/m²
- * **Exclusion Criteria:** with pituitary/ adrenal/ any cancer/ autoimmune disorders/ tuberculosis, ovarian surgery, history of smoking.
- * Analysis of serum AMH on day 2-3 of menstrual cycle was determined in venous blood at a single laboratory with an ultrasensitive ELISA
- * AFC was measured in both ovaries on day 2 or 3 of the menstrual cycle by TVS.

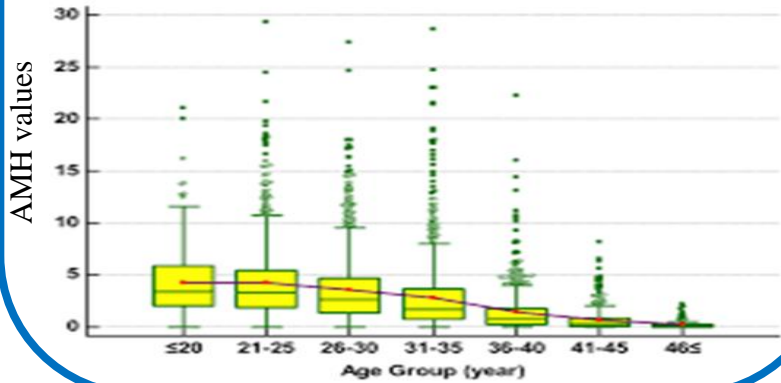
Results and Discussion

- * The 10th centile of AMH was 1.34 ng/ml and 0.04 ng/ml in women aged <25 years and >40 years of age respectively.
- * The 10th centile of AFC was 9 and 3, respectively, for these two age groups.

Percentage of women with low, normal and good anti-Mullerian hormone in various age groups

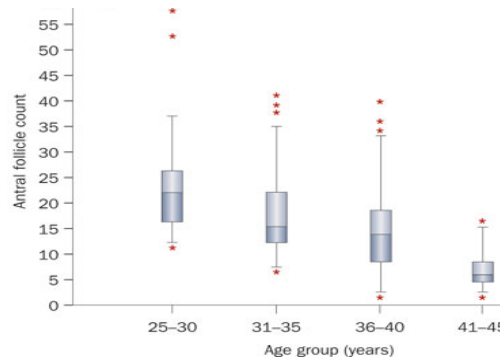
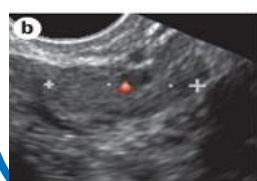
AMH (ng/mL)	Age (years)					Total
	21-24	25-29	30-34	35-39	40-44	
≤1.2	8.6%	9.6%	21.5%	45.5%	73.0%	21.2%
1.2-3.4	32.4%	40.6%	43.9%	40.2%	23.8%	40.1%
≥3.5	58.9%	49.7%	34.6%	14.4%	3.2%	38.7%

- * 14.5% of women <35 years of age and 50.5% of women >35 years of age presented with low AMH values (<1.2 ng/ml).



Percentage of women with low, normal and good antral follicle count in various age groups

AFC (2-10 mm)	Age (years)					Total
	21-24	25-29	30-34	35-39	40-44	
≤5	3.5%	4.0%	7.9%	20.7%	37.0%	8.9%
6-14	25.1%	32.2%	44.2%	49.6%	50.3%	38.8%
≥15	71.4%	63.8%	47.9%	29.7%	12.7%	52.3%



Conclusion

- * The results may provide reliable information with respect to a woman's ovarian reserve within a given age category and guides to counsel the prognosis related to fertility.

* Thanks to KPC Medical College and Hospital, Kolkata for granting necessary permission and Dr. Saheli Kapat for assisting with this research.