



## PERSONALIZATION OF IVF TREATMENT USING AMH

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**Introduction:** The main objective of individualization of treatment in IVF is to offer every single woman the best treatment tailored to her own unique characteristics, thus maximizing the chances of pregnancy and eliminating the iatrogenic and avoidable risks resulting from ovarian stimulation. Personalization of treatment in IVF should be based on the prediction of ovarian response for every individual. The starting point is to identify if a woman is likely to have a normal, poor or a hyper response and choose the ideal treatment protocol tailored to this prediction. Although anti-Mullerian hormone (AMH) level is known to predict ovarian reserve, there is conflicting evidence regarding the association between AMH and clinical pregnancy or live birth (LB).

Our aim is to establish if there is any association between AMH and LB considering the effects of age and other relevant confounding factors in predicting LB.

**Methods:** 400 in-vitro fertilization (IVF) cycles were retrospectively analyzed in IVF department of National research Center of Maternity & Child Care. From the database, data regarding the women's age, AMH level, IVF/intracytoplasmic sperm injection, the factors of infertility, protocols, median AMH level and live birth rates (LBRs) were compared between the groups with and without LB in four age groups. The influences of age and AMH in predicting LB were analyzed.

**Results:** There were no significant differences in any of the confounding factors analyzed between the groups with and without LB. In the higher two age groups, median AMH levels in the group with LB were higher than that in the group without LB. The odds of having a LB was significantly higher in the younger three age groups, and when AMH level was >20 pmol/l. AMH was not found to be the IVF outcome defining factor in younger women, but was relevant in those above 35 years. Older women with significantly higher AMH level had significantly higher LBR than their peers with low AMH level.

**Conclusion:** Personalized IVF offers several benefits; it enables clinicians to give women more accurate information on their prognosis thus facilitating counselling. AMH does have a role in counselling women when predicting live birth from IVF, although age of women plays a major role in determining success from IVF treatment.