

## **EVALUATION OF PRE-STIMULATION ANTI-MULLERIAN HORMONE LEVEL IN PREDICTING CUMULATIVE LIVE-BIRTH IN IVF**

**H.W.R. Li**, V.C.Y. Lee, E.Y.L. Lau, W.S.B. Yeung, P.C. Ho, E.H.Y. Ng

*University of Hong Kong, Queen Mary Hospital, Hong Kong*

**BACKGROUND:** Serum anti-Mullerian hormone (AMH) level has been used as a useful marker of ovarian response in assisted reproduction. We evaluated for the first time the role of baseline AMH level in predicting cumulative pregnancy outcome during in-vitro fertilisation (IVF) treatment.

**METHODS:** We studied 320 women (aged 22-44) undergoing IVF with or without intracytoplasmic sperm injection using GnRH agonist long protocol. Baseline AMH levels on the day before commencing ovarian stimulation were analysed. The main outcome measures were cumulative live-birth, live-birth in the fresh cycle and ovarian response.

**RESULTS:** There was a trend of higher median AMH levels in subjects achieving live-birth in the fresh IVF cycle (26.1 pmol/l vs 22.0 pmol/l,  $p=0.062$ ). The median AMH levels were significantly higher in subjects attaining cumulative live-birth after fresh and the resulted frozen-thawed embryo replacement cycles (29.1 pmol/l vs 19.8 pmol/l,  $p<0.001$ ). The median AMH levels were also significantly different among subjects having >15, between 4 and 14, and <3 oocytes retrieved respectively (47.6, 22.0 and 10.3 pmol/l,  $p<0.0001$ ). Both AMH and antral follicle count (AFC) were insignificant predictors of cumulative live-birth after adjusting for age. The areas under the ROC curves for AMH and AFC were 0.613 (95%CI 0.558–0.667) and 0.589 (0.532-0.643) respectively for the prediction of cumulative live-birth which were not significantly different.

**CONCLUSIONS:** Baseline serum AMH concentration before ovarian stimulation was significantly higher in subjects who attained successful cumulative live-birth in IVF treatment compared to those who did not, but the predictive power was only modest.

[raymondli@hku.hk](mailto:raymondli@hku.hk)