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Letter to the Editor

Commentary on "Epab and Pabpc1 are Differentially Expressed in the Postnatal Mouse Ovaries"

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Dear Editor,

We have read the article by Ozturk et al. entitled "Epab and Pabpc1 are differentially expressed in the postnatal mouse ovaries" [1] with great interest. In that article the authors aimed to characterize the temporal and spatial expression profiles of the Epab and Pabpc1 genes in the postnatal mouse ovaries. They found that Epab and Pabpc1 are differently expressed during postnatal development, and most likely play central roles in oogenesis and folliculogenesis. We are most interested in how to apply the results of this study to the clinical practice of human assisted reproduction.

An important issue in infertility is ovarian reserve. The ovarian reserve may involve three distinct aspects: oocyte quality, oocyte quantity, and reproductive potential [2]. Clinicians are often asked: Can I become pregnant at my age? Are aggressive assisted methods the most appropriate for me? Do I need someone to donate eggs? These are usually answered via the results of ovarian reserve tests. A variety of tests are available for determining ovarian reserve [2] including day 3 FSH level, clomiphene citrate challenge, day 3 estradiol level, anti-Müllerian hormone, and imaging studies such as those for antral follicle count. However, each test has its limitations and restrictions.

Measuring FSH concentration on the third day of the menstrual cycle is a widespread method. However, different cutoff points and inter cycle variability limit its reliability [3]. Measuring estradiol on the third day of the menstrual cycle results in the same reliability issues and conflicting data [4], and can only be applied in the interpretation of the normal results of FSH test. High FSH level and normal FSH with high estradiol indicate poor response to stimulation and low pregnancy rate. The clomiphene citrate challenge test is used to obtain both day 3 and day 10 FSH concentrations after clomiphene challenge but provides limited additional information to that of basal FSH [5]. Anti-Müllerian hormone is the best and most reliable predictor of poor or excessive ovarian response after stimulation. However, there is no international standard for this test and it is a poor predictor of live birth [6]. Imaging studies required expertise and high quality ultrasound equipment. Antral follicle count is good for predicting poor stimulation and pregnancy outcome. However, in addition to the limitations mentioned above, its low sensitivity restricts its clinical utility [7].

We would like to thank the authors of the study for providing clinicians with another potential method for evaluating the ovarian reserve if the conflicting results from different strains of mice and different probes can be resolved. Epab expression may correlate with response to stimulation or pregnancy rate and become an indicator of ovarian reserve. However, there is still a huge gap to overcome in applying these methods to human.

References

1. Ozturk S, Sozen B, Demir N. Epab and Pabpc1 are differentially expressed in the postnatal mouse ovaries. J Assist Reprod Genet. 2015; 32: 137-146.
2. Practice Committee of the American Society for Reproductive Medicine. Testing and interpreting measures of ovarian reserve: a committee opinion. Fertil Steril. 2012; 98: 1407-1415.
3. Scott RT Jr, Hofmann GE, Oehninger S, Muasher SJ. Intercycle variability of day 3 follicle-stimulating hormone levels and its effect on stimulation quality in *in vitro* fertilization. Fertil Steril. 1990; 54: 297–302.
4. Broekmans FJ1, Kwee J, Hendriks DJ, Mol BW, Lambalk CB. A systematic review of tests predicting ovarian reserve and IVF outcome. Hum Reprod Update. 2006; 12: 685-718.
5. Hendriks DJ, Mol BW, Bancsi LF, TeVelde ER, Broekmans FJ. The clomiphene citrate challenge test for the prediction of poor ovarian response and nonpregnancy in patients undergoing in vitro fertilization: a systematic review. FertilSteril. 2006; 86: 807–818.
6. Iliodromiti S, Kelsey TW, Wu O, Anderson RA, Nelson SM. The predictive accuracy of anti-Müllerian hormone for live birth after assisted conception: a systematic review and meta-analysis of the literature. Hum ReprodUpdate. 2014; 20: 560-70.
7. Hendriks DJ, Mol BW, Bancsi LF, TeVelde ER, Broekmans FJ. Antralfollicle count in the prediction of poor ovarian response and pregnancy after *in vitro* fertilization: a meta-analysis and comparison with basal follicle-stimulating hormone level. FertilSteril. 2005; 83: 291–301.