THE CORRELATION BETWEEN ANTI-MULLERIAN HORMONE WITH THE NUMBERS OF FOLLICLE AND EMBRYO QUALITY IN NON MALE FACTOR IVF

Syamsu Rijal* , Ruswana Anwar**

*Tarumanagara University; Ciawi General Hospital Bogor, Indonesia
**Padjadjaran University;ASTER Fertility Clinic Hasan Sadikin Hospital Bandung, Indonesia

INTRODUCTION

To get a correlation between AMH levels with the number of follicles that can be obtained to produce excelent and good quality of embryo. And how many follicles are needed to get an excellent and good quality of embryo. This was a cross-sectional retrospective study to 155 IVF patients from 2016 to 2018 with non male factor infertilirty in Aster fertility clinic of Hasan Sadikin General Hospital. The embryo grades refers to how the cell in the embryo look. Correlation AMH level with follicle numbers and embryo quality tested with Spearman's Rank correlation

RESULT

There is a significant correlation between AMH levels and follicle counts (r = 0,594 , *p<0,001*) AMH with oocyte number (r = 0,597 , *p<0,*001) and AMH with embryo quality (r=0,624 , *p<0,001*). to get an excelent embryo, 12 follicles are needed (r = 0,326, *p<0,001*), one good embryo, 4 follicles are needed (r = 0,291, *p<0,001*), to get a combination of excellent and good embryo, 7 follicles are needed (r = 0,407, *p<0,001*)

Table 1. Correlation between Age, AMH, Number of Follicles and Number of Oocytes

Correlation between	Correlation coefficient (r)	p value
1. Age with AMH	-0.422	<0.001
2. Age by number of follicles	-0.367	<0.001
3. Age by the number of Oocytes	-0.363	<0.001
4. AMH by the number of Follicles	0.594	<0.001
5. AMH with the number of Oocytes	0.597	<0.001
6. Number of Follicles with the number of Oocytes	0.739	<0.001

r = Spearman's rank correlation coefficient

Table 2. Correlation between the number of follicles with ET quality

Correlation between the number of follicles	Correlation coefficient (r)	P value
ET Quality		
Excelent	0.326	<0.001
Good	0.291	<0.001
Moderate	0.124	0.124
Poor	0.117	0.075
Stuck	0.143	0.234
Degeneration	0.096	
Combine:		
ET Quality (Excelent + Good)	0.407	<0.001
ET Quality (Moderate to Deg.)	0.323	<0.001

r = Spearman's rank correlation coefficient

Table 3. Correlation between the AMH Levels with ET quality

Correlation between the AMH Levels	Correlation coefficient (r)	P value
ET Quality:		
Excelent	0.145	0.072
Good	0.229	0.004
Moderate	0.219	0.006
Poor	0.231	0.004
Stuck	-0.004	0.961
Degeneration	0.024	0.768
Combine		
ET Quality (Excelent + Good)	0.264	0.001
ET Quality (Moderate to Deg.)	0.339	<0.001

r = Spearman's rank correlation coefficient

Functional Regression Equation
ET Quality (Excelent) = 0.420 + 0.049*Number of Follicles
-->Number of Follicles=(1-0.420)/0.049 = 12
ET Quality (Good) = 0.685 + 0.079* Number of Follicles
-->Number of Follicles=(1-0.685)/0.079 = 4
ET Quality (Exc+Good) = 1.105 +0.128* Number of Follicles
-->Number of Follicles=(2-1.105))/0.128= 7
ET Quality (Moderate to Deg.) = 0.931 + 0.076* Number of Follicles

CONCLUSION

AMH serum levels and follicular counts are good predictors for getting embryo with excellent and good quality for non male factor infertility

REFERENCES

1. Dewailly D, Laven J. AMH as the primary marker for fertility. Eur J endocrine. 2019;181(6):D45-51
2. Lee MS, Farland LV, Brady P, Racowsky C, Kaser DJ. Association between FSH dose and AMH level on oocyte quantity and quality in GnRH antagonist cycles. Fertil Steril. 2017;(108(3):E232
3. Borges e, Braga DP, Setti A, de Cassia Figueira R, Iaconelli Jr A. The predictive value of serum concentrations of anti Mullerian hormone for oocyte quality, fertilization, and implantation. JBRA Assist Reprod. 2017;

CONTACT

Syamsu Rijal
Email : syamsurijal.sr@gmail.com
Phone Number : 081342325857

Ruswana Anwar
Email : ruswana_anwar@yahoo.com
Phone Number : 0811221414