Korelasi kadar AMH serum terhadap jumlah dan kualitas oosit = Correlation of Serum AMH level to oocyte quality and quantity

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Abstrak

Latar belakang: Fertilisasi in vitro (FIV) merupakan salah satu metode tata laksana infertilitas yang paling banyak dilakukan di dunia. Kualitas embrio pada FIV sangat dipengaruhi oleh jumlah dan kualitas oosit. Kadar AMH merupakan marka yang rutin diperiksakan pada peserta program FIV. Namun, belum diketahui secara jelas hubungan AMH dengan kualitas dan jumlah oosit.
Metode: Penelitian ini merupakan studi analitik observasional retrospektif dengan desain potong lintang pada seluruh peserta program FIV usia 18-45 tahun di Klinik Yasmin, RSCM Kencana, Jakarta, pada periode Januari 2013 hingga Desember 2019. Pengambilan sampel dilakukan secara total sampling. Subjek dengan data tidak lengkap, memiliki etiologi infertilitas berupa sindrom ovarium polikistik, endometriosis, dan faktor sperma dieksklusi dari penelitian. Data kadar AMH, jumlah oosit total, oosit matur, oosit terfertilisasi, dan laju fertilisasi didapatkan oleh pasien.
Hasil: Didapatkan sebanyak 692 subjek yang memenuhi kriteria inklusi dan eksklusi. Pada analisis bivariat, didapatkan korelasi kuat antara kadar AMH dengan jumlah oosit total (r = 0,650, p < 0,001), jumlah oosit matur (r = 0,642, p < 0,001), dan jumlah oosit terfertilisasi (r = 0,607, p < 0,001), sedangkan tidak didapatkan korelasi antara kadar AMH dengan laju fertilisasi (r = 0,076, p = 0,049). Setelah dilakukan kontrol terhadap usia dan indeks massa tubuh, didapatkan korelasi antara kadar AMH dengan jumlah oosit total, jumlah oosit matur, jumlah oosit terfertilisasi, dan laju fertilisasi (p < 0,05). Berdasarkan analisis, nilai titik potong kadar AMH serum untuk memprediksi jumlah oosit optimal adalah 1.615 ng/mL (sensitifitas 77%, spesifisitas 77.3%).
Simpulan: Kadar AMH serum berkorelasi dengan jumlah oosit total, jumlah oosit matur, jumlah oosit terfertilisasi, dan laju fertilisasi
.....Background: In vitro fertilization (FIV) is one of the most widely practiced infertility treatment methods in the world. The quality of embryos in FIV is strongly influenced by the number and quality of oocytes. AMH level is a marker routinely checked on FIV program participants. However, it is not clear the relationship between AMH and the quality and quantity of oocytes.
Method: This study is a retrospective observational analytic study with a cross-sectional design on all FIV program participants aged 18-45 years at the Yasmin Clinic, RSCM Kencana, Jakarta, from January 2013 to December 2019. Sampling was carried out by total sampling. Subjects with incomplete data, having infertility etiology in the form of polycystic ovary syndrome, endometriosis, and sperm factors were excluded from the study. Data on AMH levels, total oocyte count, mature oocytes, fertilized oocytes, and fertilization rate were obtained by the patient.
Result: There were 692 subjects who met the inclusion and exclusion criteria. In the bivariate analysis, there was a strong correlation between AMH levels and the total number of oocytes (r = 0.650, p <0.001), the number of mature oocytes (r = 0.642, p <0.001), and the number of fertilized oocytes (r = 0.607, p <0.001), whereas there was no correlation between AMH levels and fertilization rate (r = 0.076, p = 0.049). After

controlling age and body mass index, a correlation was found between AMH levels with total oocyte count, mature oocyte count, fertilized oocyte count, and fertilization rate ($p < 0.05$). Based on the analysis, cut-off of AMH level to predict optimal total oocyte is 1.615 ng/mL (sensitivity 77%, specificity 77.3%). Conclusion: Serum AMH levels correlate with the total number of oocytes, the number of mature oocytes, the number of fertilized oocytes, and fertilization rate.