Andrology & Gynecology: Current Research

Extended Abstract

Determination of Anti-Mullerian Hormone (AMH) in fresh and frozen serum

Najib Dagher
Clinica Tambre, Spain

Abstract:

What is known already: Nowadays, AMH seems to be one of the most frequently used predictors of the ovarian response to ovarian stimulation and, in some cases, of the pregnancy rate. On the other hand, the low concentration of AMH is associated with an increased risk of embryonic aneuploidy in elderly women. Since the clinical importance of AMH continues to grow, different assays have been rapidly developed for its determination like the Elecsys AMH, which has been developed as automated testing systems by Roche Diagnostics. There are studies that observed a very small decrease in the AMH value in the frozen-thawed samples and is probably not clinically important. According to other studies the value of AMH increases in frozen samples.

Study design, size, duration: A total number of 43 patients were included in the study. Fresh and frozen serum (at -20ºC) from every women was used to determine AMH concentration. The study lasted from March to August 2018.

Participants/materials, setting, methods: The determination of AMH (ng/ml) will be performed on serum samples (n=43) from women obtained by centrifugation of the blood extracted at 3500 rpm for 5 minutes. For each sample AMH will be measured in fresh serum (Group 1) and frozen at -20 °C(Group 2) for one week. The apparatus that will determine these concentrations will be the cobas e411 analyzer that automates the immunoassay reactions by electrochemiluminescence (ECL). Results are expressed as mean ±SEM. Statistical analysis was performed using GraphPad Prism 5. One sample t-test was used to compare AMH in fresh versus frozen serum. A value of $p<0.05$ was considered statistically significant.

Mains results and the role of chance: There are no significant differences (P value= 0.9525) between AMH values in frozen (1.844 ± 0.3088) and fresh serum samples (1.871 ± 0.3132). The means were compared by one sample t-test.Regardless of the type of storage, serum AMH concentration values are reliable.

Limitations, reasons for caution: The main limitation of our study is the small number of participants. The results observed in this study should be further confirmed with a larger sample number and with different automated analyzers in order to verify if the AMH concentration change depends also on the type of immunoassay analyzer.

Wider implications of the findings: If we find the optimal and best way to determine the concentration of AMH in women's serum, without variations due to the type of sample or storage, the serum concentration of AMH could represent a useful tool to predict the outcome of an assisted reproduction treatment.

Biography:
Najib Dagher started his medical studies in Bordeaux – France and obtained his MD degree from Odessa State Medical University where he also completed his residency in Obstetrics and Gynecology as well as REPRODUCTIVE ENDOCRINOLOGY - HUMAN REPRODUCTION - Infertility & IVF in 2006. He obtained in July 2018 a University Diploma in “Infertility, Assisted Reproduction Technology (ART) & Endocrinology of the reproduction at Foch hospital IVF Center by the University of “Versailles Saint Quentin en Yvelines” in Paris – France for the year 2017 – 2018. He is now a Gynecologist and fertility specialist at "Clinica Tambre" in Madrid, Spain, as well as at “IVF Lebanon” in Beirut - Lebanon