Full study protocol and statistical analysis plan

Official Title of the study:

Levels of selected microelements in premature ovarian insufficiency

Date of the document:

January 2021.

Contents:

1. Participant Flow

Recruitment Details

This will be an observational prospective cohort study conducted at Obstetrics and Gynecology Department of Cengiz Gokcek Obstetrics and Children's Hospital between January 2020 and June 2021. The authors will be recruited 50 subjects with idiopathic POI, and 50 healthy patients were selected for the control group. All patients will be given their oral and written informed consent before their inclusion in the study. The protocol was approved by the Ethics Committee for Clinical Research of Gaziantep University (Reference number: 2020/362). The study strictly will be adhered to the principles of the Declaration of Helsinki.

Pre-assignment Details

The authors first will be assessed the recruited people to ensure meeting the inclusion and exclusion criteria. The inclusion criteria will be made according to the official documents.

Arm/Group Information *

There are two groups in the study.

Arm/Group Title *

Premature ovarian insufficiency group

Control group

2. Baseline Characteristics

In order for the expectation that a medium effect size (d = 0.60) would occur between the physiological parameters of the POI group and the control group was statistically significant, the required minimum number in each group was determined as 45 (α=0,05; 1-β=0,80). It was decided to include the same number of participants of control groups to balance the POI and control groups. Power analysis was performed by using G power package version 3.9.1. Kolmogorov Smirnov and Shapiro Wilk tests will be used to test the normal distribution of data. For comparing groups (POI/control) the student t-test will be used for variables that have a normal distribution, and the Mann Whitney U test will be used for variables that have not a normal distribution. The ROC analysis will be applied for the determination of cut-off point for variables. Moreover, Spearman correlation test will be used for the relationship of between variables. SPSS for Windows 22.0 and Medcalc programs will be used for statistical analysis. $p<0.05$ will be accepted as statistical significance.

3. Outcome Measures

Primary Outcome Measures: Lead (Pb), Cadmium (Cd), Gadolinium (Gd), Arsenic (As), Mercury (Hg), Cobalt (Co), Vanadium (V), Titanium (Ti), Sulfur (S), Chromium (Cr), Silver (Ag), Molybdenum (Mo), Boron (B), Lithium (Li), and Nickel (Ni) concentrations

4. ***Endpoints of the study:***

The primary outcome in these analyses will compare Lead (Pb), Cadmium (Cd), Gadolinium (Gd), Arsenic (As), Mercury (Hg), Cobalt (Co), Vanadium (V), Titanium (Ti), Sulfur (S), Chromium (Cr), Silver (Ag), Molybdenum (Mo), Boron (B), Lithium (Li), and Nickel (Ni) levels in the idiopathic POI group and control group.

5.Limitations and strengths:

There will strengths of this study. The women participating in the study had idiopathic POI and had not received treatment.

6. Certain Agreements

The authors declare that they have no conflict of interest.

7. Results Point of Contact

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