In the main group the level of expression of PR-A in the endometrial stroma of the early stage of secretion was high (202.5±14.36 points) and decreased to moderate in the endometrial middle stage of secretion (143.64±17.54 points). In the endometrial epithelium of patients with NSE both early and middle stage of secretion, a moderate expression of PR-A was noted with a tendency to decrease and averaged 185±25 and 120.09±24.30 points respectively. In the comparison group the level of expression of PR-A in the endometrial stromes of the middle stage of proliferation, early and middle stages of secretion was moderate and amounted to 150±30, 161.11 ±17.98 and 156.25±8.56 points, respectively, in the late stage of secretion - the level of PR-A in the stromes was high (210 points). The level of expression of PR-A in epithelium of endometrium of middle stage of proliferation, early and middle stage of secretion was moderate with a tendency to decrease and made 190±10,166,67±22,3 and 147,25±15,81 points accordingly, in the late stage of secretion the expression of PR-A in epithelium was absent (1.0 points). In the control group, the expression of PR-A in the endometrial stromes of both early and middle stages of secretion was moderate and amounted to 195±15.0 and 147.5±13.09 points, respectively. The expression of PR-A was moderate in the endometrial epithelium of the early stage of secretion and low in the endometrium of the middle stage of secretion (180±0 and 58.25±20.14 points). The level of expression of PR-A in epithelium and endometrial stroma of all groups decreased depending on the endometrial development phase (p=0.013; p=0.032), one of them did not differ statistically between the groups (p=0.186; p=0.503). We revealed that in patients with stage 1 -2 NSE and TPF the ratio of PR-A/ER in the endometrium of the middle stage of secretion averaged 5.96±2.5 and 9.48±3.57, respectively, and was statistically higher than the ratio of PR-A/ER in the endometrium of the middle stage of secretion in patients with MF (3.75±0.25; p=0.043).

Conclusion. Patients with infertility, combined with stage 1-2 NSE, have endometrial receptivity disorders during the "implantation window", which is manifested in the imbalance of hormonal receptors. The peculiarity of endometrial changes in the "window of implantation" in stage 1-2 of the NEGP is a significantly higher level of EPa in the epithelium and stroma. This may be one of the leading causes of infertility and lower efficiency of IVF program in patients with this disease.

DOi: 10.29256/v.03.01.2019.escbm56

Fe, Mg CONCENTRATION IN RAT'S BRAIN UNDER INFLUENCE OF TRIGONELLA FOENUM-GRAECUM L. GRAIN EXTRACT

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Taking into consideration growing accidences of diabetes, cardiovascular diseases, severe chronic diseases of modern human, the search for alternative ways of their treatment and prevention is a priority in society. That is why it is perspective to create drugs based on plant components extracts enriched by vitamins and microelements. Their therapeutic effects have been proven by using historically thousands of years and scientifically motivated by preclinical and clinical results researches. The pharmacological activity of natural compounds is predetermined by their complex ability and change the activity of many regulatory proteins (Kovaliov, 2000). One of these is Trigonella Foenum-Graecum L. which have pharmacological, therapeutic and nutritional potential (Yadav UC, 2014; Abbas Mohammadi, 2016; Nagulapalli Venkata KC, 2017).

Materials and Methods. We used males Wistar line rats 140-230 g, which were on a standard diet of vivarium with free access to water and food. All procedures were
carried out in accordance to the Europe Council Convention bioethical principles about the Protection of Vertebrate Animals, which are used for scientific purposes (Strasbourg, 1986). The selected rats were divided into 2 groups (n = 6): intact (control) and experimental, who daily consumed 1 ml 5% solution of *Trigonella Foenium-Graecum* L. thick water-ethanol grain extract in the calculation 250 mg/kg body weight. Decapitation was performed under thiopental anesthesia on the 14th, 21st, 28th and 63rd days. The brain of the experimental animals served as the study material. The content of the chemical elements of ferum (Fe) and magnesium (Mg) was determined by atomic absorption spectroscopy (Prays V, 1976). Statistical results processing was performed using Microsoft Office Excel 2003.

**Results.** The Fe content in the rats’ brain indicated a gradual decrease of this chemical element due to the *Trigonella Foenium-Graecum* L. action. It was found that on the 7th day of used extract it was decreased to 62.3%; on the 14th day – to 22.2%. However, after the 21st day, the trace element concentration continued to reduction to 45.4% with further depression on the 28th day – up to 62.7% and on the 63rd day – up to 50.8% compared to the control.

Mg concentration indicated a primary decrease followed by an increase of the microelement due to the extract effect. It was noted that Mg content dropped by 12.5% on the 7th day. But, on the 14th day there was a further augmentation of the trace element to 38.4% with its next increase by only to 9.9% on the 21st day; 6.7% on the 28th day and 10.5% on the 63rd day compared to the control.

Prospects for future research. The received results of Fe and Mg concentration in rat’s brain under influence of *Trigonella Foenium-Graecum* L. water-ethanol grain extract testifies about the cumulative properties of this chemical elements and their elimination in the body of experimental animals. However, in order to establish the positive dynamics of plant extract and its positive influence on the cardiovascular diseases or diabetes requires further researches, which may be the subject of future experimental studies.

**References:**


**Key words:** Fe, Mg, concentration, rat, brain.