

## **287. MECHANISMS OF VENOUS THROMBOEMBOLISM IN ORAL CONTRACEPTION**

Author: **Mariana Ursan**

Scientific adviser: Ala Ambros, PhD, Associate professor, Department of Biochemistry and Clinical Biochemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Combined oral contraceptives (COC) are more and more used by fertile women, as well as teenagers in different cases, like dysmenorrhea, endometriosis, ovarian polycystic syndrome, dysfunctional uterine bleeding (DUB) and hormone-replacement therapy (HRT) for primary ovarian insufficiency. Even if they act efficiently in pregnancy prevention and hormonal regulation, they also significantly increase the risk of venous thromboembolism. Recent researches have shown that the risk of venous thromboembolism depends a lot on the ratio of estrogen/progestin in combined oral contraceptives and on thrombotic events of women on COC.

**Aim of the study.** Description of the mechanisms that can induce venous thromboembolism and the selection of women potentially predisposed to them. Highlighting the frequency of their occurrence depending on the ratio estrogen/progestin in the composition of combined oral contraceptive. Individual prescription for oral contraceptives, in order to reduce their risk for health.

**Materials and methods.** The literature analysis has been conducted using 98 bibliographic sources from PubMed search engine starting with January 2017 and from PMC since January 2015.

**Results.** In women with mutation of Factor V Leiden and prothrombin, as well as defects of antithrombin III, protein C and S, that take hormonal contraceptives, the risk of venous thromboembolism increases up to 3-9%, unlike women who do not take them. Also, women who take oral contraceptives with estrogen and levonorgestrel, deriving from progestin, have a high level of Factor VII, X and fibrinogen, produced by high hepatic synthesis stimulated by the first hepatic degradation of estrogen, and high APC resistance and low level of antithrombin and protein S. Thus, favorable conditions for venous thromboembolism occur.

**Conclusions.** In women who take oral contraceptives the risk of thrombosis is higher than in women who do not take them. The mechanisms inducing venous thromboembolism depend a lot on the specific ratio of estrogen/progestin and the presence of hereditary or acquired thrombophilia in women on COC.

**Key words:** oral contraceptives, venous thromboembolism, hormones, thrombophilia

## **288. POSTCONDITIONING – A MECHANISM FOR PREVENTION OF ISCHEMIA/REPERFUSION INJURY**

Author: **Cornelia Lazăr**

Scientific adviser: Olga Tagadiuc, MD, PhD, Associate Professor, Department of Biochemistry and Clinical Biochemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Ischemia is a pathological condition when the blood supply to a tissue is interrupted and may lead to irreversible damages due to lack of oxygen and nutrients. There are many diseases, such as myocardial infarction, ovarian torsion, ischemic stroke, where the