

**DECREASE OF FETO-MATERNAL PATHOLOGY IN PATIENTS WITH  
RECURRENT PREGNANCY LOSSES AND ANTIPHOSPOLIPHIDAL  
SYNDROME BY OPTIMIZING THERAPY THROUGH THE APPLICATION OF  
ENDOVASCULAR LASERTHERAPY**



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AMONG AUTOIMMUNE DISTURBANCES, CAUSING LOSSES OF PREGNANCY, A LEADING ROLE IS OCCURED BY ANTIPHOSPOLIPHIDAL SYNDROME (APS). THE FREQUENCY OF WHICH IN WOMEN WITH RECURRENT PREGNANCY LOSSES CONSTITUTES 27-42 %, IF NO ADEQUATE THERAPY IS CONDUCTED THE FETUS'S DEATH IS OBSERVED IN 90-95% OF CASES IN PREGNANTS WITH APS. IF PREGNANCY IS EXTENDED UP TO DELIVERY TERM A FREQUENT GROWTH IS NOTED OF FETUS'S CHRONIC DISTRESS, ITS HYPOTROPHY, HEAVY FORMS OF GESTOSIS.

A COMPLEX THERAPY BY CORTICOSTEROIDS, IMMUNOGLOBULINS, ANTICOAGULANTS AND ANTIAGGREGATION AGENTS DOES NOT ALWAYS YILD DESIRABLE RESULTS DUE TO OCCASIONAL DRUG INTOLERANCE, INSUFFICIENTLY EFFICATIUS DOSAGES OF DRUGS, THEIR POSSIBLE SIDE EFFECTS.

A NUMBER OF SPECIFIC EFFECTS OF ENDOVASCULAR LASER-THERAPY (EVLТ) SUCH AS DETOXICATION, RHEOCORECTION, IMMUNOCORECTION, INCREASE OF SENSITIVITY TO ENDOGENOUS SUBSTANCES AND MEDICAMENTS, CREATE PREREQUISITES FOR ITS USAGE DURING THE TREATMENT OF PATIENTS HAVING ANTIPHOSPOLIPHIDAL SYNDROME.

THE MAIN GROUP WAS MADE UP OF 82 WOMEN OF 20-37 YEARS WITH ANTIPHOSPOLIPHIDAL SYNDROME, WHO HAD SUFFERED TWO OR MORE MISCARRIAGES AND/ OR PRETERM DELIVERIES IN THEIR ANAMNESES AND UNDERWENT EVLT SEANCES BEFORE PREGNANCY.

THE COMPARISON GROUP COMPRISED 75 NON-PREGNANTS WITH ANTIPHOSPOLIPHIDAL SYNDROME, WHO UNDERWENT MEDICATED PREPARATION FOR PREGNACY BY TAKING CORTICOSTEROIDS (5-10 MG IN 24 HOURS) ANTIAGGREGANTS, ANTICOAGULANTS ACCORDING TO INDICATIONS.

IN THE MAIN GROUP THE TRATMENT COURSE CONSISTED OF 10 EVLT SEANCES A HELIUM-NEON LASER (LOW DENSITY, WAVE LENGTH 632.8 NM, POWER DENSITY 1-5 MW, DURATION OF ONE SEANCE 25-30 MIN) WAS USED.

ACCORDING TO THE RESULTS OF INVESTIGATIONS THE NON PREGNANS WITH APS AFTER EVLT SEANCES HAVE SHOWN THE ABSCENSE OF LUPUS ANTICOAGULANT (LA) IN A VENOUS BLOOD IN 92.2% OF CASES AS WELL AS CREDIBLE AUTO-ANTYBODY LEVELS AGAINST PHOSPHOLIPIDS, THE ABOVE EFFECTS IS THE CONSPICIOUS IN RESPECT OF PHOSPHATYDYLSERIN AND ANTICARDIOLIPIN ANTIBODIES-AN EFFECT WE HAVE FAILED TO OBTAIN AS A RESULT OF MEDICATED TREATMENT AFTER AS MANY AS THREE MONTHS. IN VIEWING REMOTE CONSEQUENCES OF THE THERAPY IT BECOMES THAT IN TWO MONTHS AFTER EVLT ONLY TEN WOMAN (13.3%) SHOWED LIGHT POSITIVE REACTION OF LA, WHEREAS BEFORE EVLT SEANCES 100% OF WOMEN YIELDED STRONG POSITIVE AND POSITIVE RESULTS.

IN THE GROUP OF PATIENTS WHO UNDERWENT A MEDICATED PREPARATION FOR PREGNANCY, AFTER TWO MONTHS OF THERAPY STRONG POSITIVE -16 (21.3%), POSITIVE -17 (22.7%), AND LIGHT POSITIVE -27 (36%) RESULTS WERE SHOWN.

BY MEANS OF CONDUCTING EVLT SEANCES IT IS POSSIBLE TO ATTAIN A RAPID AND RELATIVELY STABLE (ENDURING 2-3 MONTHS) EFFECT ON THE PARAMETERS OF THE SYSTEM OF HEMOSTASIS.

82% OF WOMEN WITH APS BEFORE SHOWED HYPERCOAGULATION,

HYPERFUNCTION OF TROMBOCITES IN 56%; INTRAVASCULAR BLOOD COAGULATION MARKERS WERE REVEALED IN 28%.

FOLLOWING THE 55 TH EVLT SEANCE THE NUMBER OF WOMEN WITH EXPRESSED HYPERCOAGULATION HAS DECREASED TWICE; AFTER THE 9TH AND 10TH SEANCES THESE WOMENS HEMOSTAZIOGRAMS HAVE NORMALIZED, THE ABOVE EFFECT REAMINING STABLE DURING 8 WEEKS AFTER THE COMPLETION OF THE THERAPY.

OUT OF 82 WOMEN, WHO UNDERWENT EVLT IN A NON-PREGNANT CONDITION, PREGNACY OCCURED IN 49 CASES WITHOUT ADMINISTRATION IN A CONCEPTION CYCLE OF CORTOCOSTEROIDAL AND ANTIAGGREGANT THERAPIES.

COMPARATIVE CHARACTERISTICS OF THE PROGRESS OF THE 1ST TRIMESTER OF PREGNANCY HAS REVEALED LESS EXPRESSED SYMPTOMS OF THE DANGER OF INTERRUPTION OF PREGNANCY IN THE WOMEN, WHO UNDERWENT EVLT.

ACCORDINGLY, DETACHMENT OF A FRONDOSE CHORION IN THE 1ST TRIMESTER OF PREGNANCY WAS DIAGNOSED BASED ON SONOGRAPHY IN 15.4% OF WOMEN, WHILE IN THE COMPARISON GROUP IT OCCURRED IN 42.6% OF PREGNANTS. A CLEARLY MARKED ACTIVITY OF THE AUTOIMMUNE PROCESS AT THE TERM OF PREGNANCY, EQUALLING 7-9 WEEKS, WITH THE ACTIAVATION OF A CHRONIC-DIC SYNDROME, WAS REVAELED IN 73.3% OF WOMEN IN THE COMPARISON GROUP AND ONLY 24% OF PREGNANTS OF THE MAIN GROUP. ACCORDINGLY, PREPARATION FOR PREGNANCY BY APPLYING EVLT MADE IT POSSIBLE TO ACHIEVE STABILIZATION OF IMMUNOLOGIC AND HEMOSTASIOLOGIC PARAMETERS IN THE MAJORITY (76%) OF THE MAIN GROUP WOMEN.

27.3% OF THE MAIN GROUP WOMEN IN THE 1ST TRIMESTER OF PREGNANCY WERE IN NEED OF ADMINISTERRING ANTIAGGREGANT KURANTIL IN DOSES EQUALLING 75-150 MGR, WITH NO NEED FOR THE APPLICATION OF ANTICOAGULANTS.

IN THE COMPARISON GROUP A DRUGLOAD WAS CONSIDERABLY HIGHER AND INCLUDED ANTIAGGREGANTS IN 85.7% OF PATIENTS, SUBCUTANEOUS INJECTIONS OF HEPARIN-IN 75.6 %, CORTICOSTEROIDS IN DOSES EQUALLING 10-15 MGR IN 29 PATIENTS, AND ONLY IN 9 PATIENTS THE DOSE OF CORTICOSTEROIDS WAS MINIMAL-5 MGR.

BY USING EVLT SEANCES FOR THE PREPARATION FOR PREGNANCY WE WERE ABLE TO DECREASE THE ACTIVITY OF AN AUTOIMMUNE PROCESS, REFLECTED BOTH IN NORMALIZING LABORATORY INDICES AND IN A MORE FAVORABLE PROGRESS OF THE 1ST TRIMESTER OF PREGNANCY IN PATIENTS WITH APS, THE ABOVE SEEMS TO BE EXTREMELY IMPORTANT DUE TO THE POSSIBILITY OF THE PROGRESS AT THE STAGES OF EMBRIOGENESIS AND FORMATION OF PLACENTA AGAINST A MORE FAVORABLE IMMUNOLOGICAL BACKGROUND.

COMPARATIVE ANALYSES OF THE COURSE OF THE 2ND TRIMESTER OF PREGNANCY WAS REVEALED LESS PRONOUNCED COMPLICATIONS IN PATIENTS, WHOSE COMPLEX THERAPY COMPRESSED EVLT, A THREAT TO PREGNACY WAS TWICE LESS FREQUENT THAN IN THE COMPARISON GROUP WOMEN (22% AND 42.9%) DISRUPTIONS OF FETO-PLACENTAL AND UTERINE PLACENTAL BLOOD FLOW - IN 5.1 % AND 11.8% OF PATIENTS, ACCORDINGLY IN THE COMPARISON GROUP FOUR WOMEN, DUE TO A CHORIOAMNIONIT PREGNACY, HAVE SUFFERED SPONTANEOUS INTERRUPTION; PRENATAL DEATH OF FETUS OCCURRED IN CASES OF TWO PATIENTS, AS OPPOSED TO NO FETAL LOSSES IN THE 2ND TRIMESTER IN CASE OF PATIENTS WITH APS, BELONGING TO THE MAIN GROUP

IN THE THIRD PREGNANCY TRIMESTER A LOWER FREQUENCY OF COMPLICATIONS , SUCH AS THE THREAT OF PRETERM DELIVERY, ACTIVATION OF CHRONIC DIC-SYNDROME, GESTOSIS, CHRONIC DISTRES OF FETUS, WAS NOTED IN THE MAIN GROUP OF PREGNANTS.

ANALYSIS OF THE OUTCOME OF PREGNANCIES IN THE PATIENTS OF THE

INVESTIGATED GROUPS HAS SHOWN THAT 98.2% OF WOMAN OF THE MAIN GROUP AND 92 % IN THE COMPARISON GROUP MAINTAINED PREGNANCY UP TO DELIVERY TERMS.

DETACHMENT OF THE NORMALLY POSITIONED PLACENTA AND THE RESULTANT ACUTE FETAL DISTRESS WERE OBSERVED TWICE AS LESS FREQUENTLY IN THE MAIN GROUP.

AN AVERAGE MASS OF NEWBORNS IN THE FULL TIME BABIES OF THE MAIN GROUP MADE UP 3652+45 GR OF THE COMPARISON GROUP 3236+74.4 GR, IN THE PREMATURE BABIES 2443+80.2 AND 2235.5+73.4 GR ACCORDINGLY.

IN THE COURSE OF ANALYSIS OF ABSCESED-INFLAMMATORY COMPLICATIONS A RELIABLE HIGHER FREQUENCY OF THE DEVELOPMENT OF ENDOMETRITIS AFTER CAESAREAN OPERATION IN THE COMPARISON GROUP, AS OPPOSED TO THE MAIN GROUP, IS 11.7% AND 1.9% ACCORDINGLY (B<0.05)

90.4 % OF BABIES IN THE MAIN GROUP AND 76.8% IN THE COMPARISON GROUP WERE BORN WITH NO TRACES OF ASPHYXIA (EVALUTION BASED ON APGAR SCALE 8 AND MORE POINTS).

WHILE ANALYZING THE PROGRESS OF A NEONATAL PERIOD IN THE NEONATES, BORN OF WOMAN WITH APS WITH THE INVESTIGATED GROUPS, A RELIABLE LOWER PERCENT WAS NOTED OF PRENATAL INFECTIONS OF THE MAIN GROUP BABIES, SPECIFICALLY THE FREQUENCY OF A NEONATAL PNEUMONIA, DIAGNOSED IN THE FIRST THREE DAYS OF LIFE IN THE MAIN GROUP, CONSTITUTED 4.4% OF BABIES, AS COMPARED TO THE 16.7% IN THE COMPARISON GROUP (P< 0.05)

#### **CONCLUSION:**

FOR THE FIRST TIME THE IMPORTANCE OF EVLT WAS NOTED IN THE REHABILITATION OF THE REPRODUCTIVE FUNCTION OF NON-PREGNANTS WITH APS, AS WELL AS ITS EFFECT ON THE ACTIVITY OF AUTOIMMUNE PROCESS PRIOR TO THE SCHEDULED PREGNANCY.

OPTIMUM DOSES AND DATES WERE DERNED OF APPLYING THE EVLT PROCEDURE BEFORE PREGNANCY AND A TIME INTERVAL WAS SET OFF THE EFFECT OF CONDUCTED TREATMENT. A COMPARATIVE ANALYSIS WAS OF THE DYNAMICS OF IMMUNOLOGICAL, HEMOSTAZIOLOGICAL, BIOCHEMICAL, BACTERIOLOGICAL PARAMETERS IN THE GROUP OF PATIENTS WITH AND WITHOUT THE APPLICATION OF EVLT. AND IN THIS CONNECTION AN EXPEDIENCY WAS SUBSTANTIATED OF INCLUDING EVLT INTO THE PROGRAM OF PREPARATION FOR PREGNANCY IN WOMEN WITH APS.

A FREQUENCY WAS ANALIZED OF COMPLICATIONS, OCCURRING DURING GESTATION IN THE GROUPS OF PATIENTS, RECEIVING PHARMACOTHERAPY AND UNDERGOING A COMPLEX PREPARATION FOR PREGNANCY WITH THE INCLUSION OF EVLT.

FOR THE FIRST TIME THE EFFECT OF COMPLEX THERAPY ON IMMUNOLOGICAL, HEMOSTAZIOLOGICAL, BIOCHEMICAL PARAMETERS AND THE STATE OF FETO-MATERNAL CIRCULATION WITH THE INCLUSION OF EVLT WAS STUDIED THE COURSE OF PREGNANCY CHILD-BEARING, POSTNATAL PERIOD WERE STUDIED IN WOMEN WITH APS, TOGETHER WITH THE FREQUENCY OF FETO MATERNAL PATHOLOGY IN GROUPS WITH AND WITHOUT APPLICATION OF EVLT. SAFETY ANF EFFICIENCY OF EVLT IN PATIENTS WITH APS WAS PROVED.

INTRODUCTION OF EVLT INTO PRACTICE MADE IT POSSIBLE TO OPTIMIZE A TREATMENT PROGRAM FOR THE PATIENTS WITH APS. WITH DIMINUTION IN DRUGLOAD ON THE PREGNANT'S ORGANISM, AND ACHIEVE THE DECREASE OF PERINATAL PATHOLOGY AND THROMBOTIC COMPLICATIONS IN THE WOMEN WITH AUTOIMMUNE PROCESSES.

#### **PRACTICAL RECOMMENDATIONS**

1. FOR DIAGNOZING APS A THOROUGH ANALYSIS IS REQUIRED OF THE ANAMNESIS DATA AND RESULTS OF CLINICAL-LABORATORIAL

INVESTIGATIONS URGENTLY NEEDED BEFORE THE START OF PREGNANCY, AIMED TOWARDS A TIMELY ASSESSMENT OF THE RISK TO THE GROWTH OF THE EMBRYO AND THE COMMENCEMENT DATE OF TREATMENT.

2. EVLT IS OFFERED BY US AT A CONCLUSIVE STAGE OF PREPARATION FOR PREGNANCY IN PATIENTS WITH APS, AS A METHOD, ENABLING TO DECREASE THE ACTIVITY OF AUTOIMMUNE PROCESS BEFORE THE GESTATION PERIOD, FOLLOWING THE COMPLETION OF ANTIBACTERIAL-ANTIVIRAL THERAPY, CORRECTION OF HORMONAL DISTURBANCES EXCLUSION OF ALL OTHER CAUSES OF REGULAR MISCARRIAGE (GENETIC, ANATOMIC)

3. DURING PREGNACY IT IS EXPEDIENT TO APPLY EVLT IN CASE OF:

- \* HYPERACTIVITY OF AUTOIMMUNE PROCESS;
- \* HYPERCOAGULATION, INCONSISTENT WITH THE TERM OF PREGNANCY AND INCORRIGIBLE BY MEDICAL PREPARATIONS;
- \* ALLERGIC REACTIONS ON THE INJECTIONS OF ANTICOAGULANTS AND ANTIAGGREGANTS;
- \* ACTIVATION OF BACTERIAL-VIRAL INJECTION (CHORIOAMNIONIT) DURING PREGNACY IN RESPONSE TO ADMINISTERED DOSES OF CORTICOSTEROIDS.
- \* COMPLICATIONS AFTER MEDICATED THERAPY IN PATIENTS WITH EXTRAGENITAL PATHOLOGY (AT AN ACUTE STATE OF CHRONIC GASTRITIS AND FOR GASTRIT ULKER, DUODENIUM, ARTERIAL HYPERTENSION , DECREASE FOR TOLERANCE FOR GLUCOSE) REQUIRING REDUCTIONS IN DOSES OF STEROIDS AND CESSATION OF IMMUNOSUPPRESSIVE THERAPY;
- \* HYPOPROTEINEMIA, HIPOCOAGULATION, ANAEMIA, HYPOKALEMIA, CARDIOVASCULAR INSUFFICIENCY;
- \* INSUFFICIENCY OF FETO-MATERNAL CIRCULATION AND CHRONIC DISTRESS OF FETUS.

4. DUE TO THE FACT THAT PREGNANCY WITH APS REPRESENT A RISK GROUP FOR THE DEVELOPMENT OF A PLACENTAL INSUFFICIENCY, IT IS EXPECTED TO CONDUCT DOPPLEROMETRY FROM THE 12TH WEEK. CARDIOTOCOGRAPHY -FROM THE 24 THE WEEK OF PREGNACY WITH INTERVAL OF 2 WEEKS, AND IF NECESSARY ONE A WEEKLY BASIS.

5. IN THE POSTNATAL PERIOD IT IS OBLIGATORY TO EXERCISE CONTROL OVER HEMOSTAZIOGRAM PARAMETERS TO CARRY OUT THROMBOELASTOGRAPHY, IN CASE OF REVEALING ANY DISTURBANCES IT IS CRUCIAL TO CONDUCT, FOR THE PREVENTION OF THROMBOEMBOLIC COMPLICATIONS, TREATMENT WITH ANTICOAGULANTS AND FOR ANTIAGGREGANTS IN INDIVIDUALLY SELECTED DOSES.

6. PATIENTS, DIAGNOSED WITH APS DURING PREGNANCY, HAVE TO BE CLOSELY MONITORED AFTER ITS COMPETION AND CHECLKED ON HEMOSTAZIOLOGICAL PARAMETERS DUE TO THE RISK OF THE DEVELOPMENT OF EXTRAGENITAL MANIFESTATIONS OF THE DISEASE.

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