Introduction: Arterial hypertension is the most common complication of pregnancy and cause of maternal and perinatal morbidity and mortality worldwide. The prevalence of chronic hypertension in pregnant women is of 1–5%. The diagnosis is based on the anamnesis data or increase in pressure of up to 140/90 mmHg or more before the 20th week of pregnancy.

Objectives: To Establish the clinical significance of pepaBapHo training of women with chronic hypertension of I–II stage II of the degree of risk of CHF 0–I and identify opportunities for drug prevention hypertensive complications in pregnant women.

Methods: The Hypertensive disorders in pregnant women divided into three categories: chronic hypertension, gestational hypertension and preeclampsia. The study included 177 women with chronic hypertension of I–II stage II of the degree of risk of chronic heart failure 0–I receive pepaBapHy the preparation of the group (observations) and 100 women with chronic hypertension of I–II stage II of the degree of risk of chronic heart failure 0–I do not receive pre-conceptional training (a comparison group). The age of patients in both groups did not differ, ranging from 18 to 42 years (Me 28 years).

Results: The course of pregnancy in the investigated groups complicated: pre-eclampsia (48.02% and 67.0%, respectively, in groups I and II), the threat of termination of pregnancy (45.2% and of 64.0% , respectively), early pre-eclampsia (28.2% and 35.0% , respectively). Chronic fetal hypoxia of the fetus were observed in 33.9% and 40.0% of women, respectively, delay the development of the fruit – by 16.9% and 20.0%, foetoplacental insufficiency – by 22.6%, 31.0%. Premature births ended 16.9% and 24.0% of pregnancies, respectively. In 100% of the women in the focus groups method of delivery was operation caesarean section in the lower segment of the uterus. The readings from the mother's side was the failure of a scar on the uterus, narrow pelvis, shoulder of the cervix, detachment normally situated placenta, extra-genital pathology of the mother in the stage of decompensation. From the fruit of the main indications were: acute fetal hypoxia of the fetus, delay the development of the fetus rights violations in the utero-placental basin.

Conclusion: Pre-conceptional preparation of women with chronic hypertension, including the treatment of chronic infections with the phenomena of bacterial vaginosis, regulation of violations of menstrual function creates a favorable background for the normal course of pregnancy. A careful medical supervision and timely delivery are the key factors in the treatment of arterial hypertension in pregnant women.

Disclosure of interest

None declared

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OS039. Early prediction of preeclampsia with maternal parameters, SVEGF-R1, PLGF, Inhibin-A and PAPP-A in general population: Results from the MSPE study.

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Introduction: Screening for preeclampsia has been one of the most important challenge in perinatal medicine during this last decade. Numerous clinical, ultrasound, and biochemical tests have been proposed for early detection of preeclampsia. There are large discrepancies in the sensitivity and predictive values of these tests, and most of the studies were performed in high risk population. The utility of these tests in clinical practice is controversial.

Objectives: The purpose of the MSPE study was to assess the utility of free soluble vascular endothelial growth factor 1 (sVEGF-R1), free placental growth factor (PlGF), Inhibin-A and Pregnancy-associated plasma protein A (PAPP-A) levels in early prediction of preeclampsia.

Methods: A multicenter prospective clinical study conducted in a general population of singleton pregnancies. Plasma was collected between 14 weeks' gestation (WG) and 18 WG, from 8516 patients; 139 patients developed preeclampsia (1.6%). A nested case-control study was performed and included 110 preeclamptic patients and 821 patients matched to the case group according parity, gestational age at blood sampling and maternal age. Assays for free sVEGF-R1 (pg/ml)*, free PlGF (pg/ml)*, Inhibin-A (pg/ml) and PAPP-A (mIU/L)* were performed on a Beckman Coulter UniCel® DxI 800 chemiluminescent immunoassay analyser. *Assays are under development and not available for clinical use.

Results: logPlGF (1.95 vs 1.76, OR 0.11 95% IC (0.05–0.24); $p < 0.0001$), logPAPP-A (3.42 vs 3.32, OR 0.37 95% IC (0.19–0.74); $p < 0.002$) and logInhibin-A (2.23 vs 2.29, OR 3.50 95% IC (1.44–8.51); $p < 0.007$) were significantly different between patients who later developed preeclampsia compared to the control group. Free sVEGFR-1 levels were not significantly different. Multiple of medians (MoM) of log values were assessed. A predictive model based on maternal parameters (ethnicity, BMI, mean blood pressure in the first trimester, history of preeclampsia and other hypertensive diseases) and the 4 biomarkers was assessed. The model was assessed on 2/3 of the population and validated on 1/3 of the population. The Area under ROC curve was respectively 0.90 and 0.93 (Table 1).

Table 1

	Evaluation of the model (2/3 of the population)	Validation of the model (1/3 of the model)
AuRC	0.90	0.93
Sensitivity	44.7	44.1
Specificity	98.0	97.8
PPV	75.6	71.4
NPV	92.7	93.4

Conclusion: In a general population where the prevalence of preeclampsia is low, our model based on maternal parameters, free PlGF, Inhibin-A and PAPP-A, appear to be useful in differentiating women who later develop preeclampsia from patients without preeclampsia.

Disclosure of interest

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OS040. Effect of folic acid supplementation in pregnancy on preeclampsia – Folic acid clinical trial (FACT)

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Introduction: Observational studies suggest that folic acid supplementation during pregnancy can reduce the risk of preeclampsia (PE). No randomized controlled trial has been conducted to demonstrate the effect of folic acid supplementation on PE.

Objectives: FACT aims to determine efficacy on a new PE prevention strategy of high dose folic acid supplementation from early pregnancy ($8^{0/7}$ to $16^{6/7}$ weeks of gestation) until delivery in women with high risk of developing PE.

Methods: Design: FACT is an international, multi-centre, double-blind, placebo controlled clinical trial of 3656 women. Eligible women will be randomised in a 1:1 ratio to folic acid 4.0 mg or placebo.

Population: Pregnant women ($8^{0/7}$and $16^{6/7}$ weeks of gestation) ≥18 years of age, taking 1.1 mg of folic acid supplementation who fulfill at least one of the following identified risk factors for PE.

Pre-existing hypertension (blood pressure ≥90 mmHg on two separate occasions or at least 4 h apart prior to randomization, or use of antihypertensive medication during this pregnancy specifically for the treatment of hypertension prior to randomization),

pre-pregnancy diabetes (Type I or Type II DM),

twin pregnancy,

history of PE in a previous pregnancy,

BMI ≥35 kg/m^2 within 3 months prior this pregnancy or during the first trimester of this pregnancy.

Primary outcome: PE is defined as blood pressure ≥d90 mmHg on two occasions ≥4 h apart and proteinuria developed in women greater than 20 weeks of gestation.

Or HELLP (Haemolysis, Elevated, Liver Enzymes, Low Platelets) syndrome

- haemolysis (characteristic peripheral blood smear),
- serum LDH ≥600 U/L,
- serum AST ≥70 U/L,
- platelet count <100 × 109/L.

Or superimposed PE, defined as history of pre-existing hypertension (diagnosed pre-pregnancy or before 20 weeks' gestation) with new proteinuria.

Proteinuria is defined as:

- urinary protein ≥300 mg in 24 h urine collection, OR
- in the absence of 24 h collection, ≥2+ dipstick proteinuria, OR
- random protein-creatinine ratio ≥30 mg protein/mmol.

Analysis plan: Intent-to-Treat (ITT) population will be analyzed. Chi-square test will be used in the comparison of incidence of PE between the intervention and placebo groups for analysis of the primary outcome.

Results: The Ottawa Hospital randomized the first FACT subject in April 2011. As of February 29th, 2012, 62 subjects have been randomized. There are currently 18 Canadian sites participating in FACT, of which 10 are actively recruiting and 8 are pending site activation. Internationally, Argentina, Australia and the United Kingdom are anticipating first recruits in the late spring of 2012. Israel and Holland are expected to begin enrolment as early as the fall of 2012.

Conclusion: Recruitment is on target and expected to end August 2014. Results from this large scale trial will provide a definitive answer to the important question whether folic acid supplementation can prevent PE.

Disclosure of interest

None declared.

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OS041. Apolipoprotein A-I protects normal integration of the trophoblast into endothelial cellular networks in an in vitro model of preeclampsia

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Introduction: Failure of the trophoblast to appropriately invade uterine spiral arteries is thought to be an initiating event in preeclampsia, a disorder associated with endothelial dysfunction. A dyslipidemia characterised by low plasma levels of high density lipoproteins (HDL) and elevated triglycerides has also been described in preeclampsia. The pro-inflammatory cytokine TNF-α inhibits trophoblast invasion of uterine endothelial cells. Previous work using an *in vitro* JEG-3 cell/Uterine endothelial cell co-culture model investigated the effect of apoliopoprotein A-I, the main apo-