

PREGNANCY RISK FACTORS IN LATIN AMERICA

FACTORES DE RIESGO DEL EMBARAZO EN AMÉRICA LATINA

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Abstract

In Latin America, complications occurring during the pregnancy and puerperium constitute major causes of maternal-infant morbidity and mortality. Preeclampsia and eclampsia are the main disorders in this scenery. Risk factors include nulliparity, obesity, dyslipidemia, diabetes, hypertension, anti-phospholipid syndrome, heart or kidney disease, urinary infection, anemia, and lack of prenatal care. Authors from Ecuador, Colombia, Panamá, Peru, Bolivia, and Honduras have contributed with current studies focusing on the preventable predisposing risk factors. The objective of the herein commented studies is to stimulate further investigations in low-income regions including diverse age groups of hypertensive pregnant women.

Resumen

En América Latina, las complicaciones que ocurren durante el embarazo y el puerperio constituyen las principales causas de morbilidad y mortalidad materno infantil. La preeclampsia y la eclampsia son los principales trastornos en este escenario. Los factores de riesgo incluyen nuliparidad, obesidad, dislipidemia, diabetes, hipertensión, síndrome antifosfolípido, enfermedad cardíaca o renal, infección urinaria, anemia y falta de atención prenatal. Autores de Ecuador, Colombia, Panamá, Perú, Bolivia y Honduras han contribuido con estudios actuales que se centran en los factores de riesgo predisponentes prevenibles. El objetivo de los estudios aquí comentados es estimular nuevas investigaciones en regiones de bajos ingresos, incluyendo diversos grupos de edad de mujeres embarazadas hipertensas.

Dear Editor:

In some Latin American countries, complications occurring during the pregnancy-puerperal cycle are included in main causes of maternal-infant morbidity and mortality⁽¹⁻⁴⁾. Preeclampsia (PE), eclampsia, and peripartum cardiomyopathy are among these disorders⁽¹⁻⁴⁾. Ecuador, Colombia, Panamá, Peru, Bolivia, and Honduras are countries where risk factors in pregnant women are receiving special attention of public health programs to protect women. Risks include nulliparity, obesity, dyslipidemia, diabetes, hypertension, anti-phospholipid syndrome, heart or kidney disease, urinary infection, anemia, and lack of prenatal care⁽¹⁻⁴⁾. The aim is to comment some manuscripts with focus on preventable predisposing risk factors.

We appreciated the cohort retrospective study by Quezada Galindo *et al.*, about the validation of the MAMÁ and MACAS score in pregnant women of Equatorian Amazon⁽³⁾. They compared the two score keys among 1259 patients with the following average data: 24.93 year-old, 27.61 Kg/m² of BMI, and 111.19/ 70.22 mmHg of arterial blood pressure. Arterial hypertension and postpartum bleeding were the two main activated obstetric keys, and the authors emphasize the role of serum lactate determination in metabolic assessment⁽³⁾. The sensitivity and specificity of MAMÁ and MACAS scores to determine the Blue Obstetric

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Code were compared. MAMÁ score ≥ 3 was yes: 29 (63.0%), and no: 117 (14.6%), with a sensitivity: 63%, and specificity: 85%; and the score < 3 was yes: 17 (37%), and no: 1036 (85.4%). The MACAS score ≥ 3 was yes: 30 (65.2%), and no: 162 (13.4%), with a sensitivity: 65%, and specificity: 87%; and the score < 3 was yes: 16 (34.8%), and no: 1051 (86.6%). Logistic regressions revealed that the MAMÁ score ≥ 3 increased the probability of requiring obstetric key activation by 18 times, and the same MACAS score increased by 20 times⁽³⁾.

The conclusion based on logistic evaluation was that MACAS score has higher specificity, but prospective researches involving larger cohorts must be performed to better validation⁽³⁾.

In Colombia, Ayala-Ramírez et al. have given important contributions in the field of hypertensive pregnancy disorders influencing fetal, neonatal and maternal morbimortality^(1,2). Their studies deserve special attention because the cited disorders cause near 26% of maternal deaths in Latin America, while severe maternal morbidity in Colombia may reach 59%⁽¹⁾. From July 2017 to November 2018 these authors compared the data directly obtained from 215 Colombian women who developed PE, with those from 256 normal pregnant controls. Potential risks of PE were previous PE, intrauterine growth restriction-small for gestational age, pregestational obesity, weight gain over than 12 Kg during pregnancy, maternal age lower than 20 or over than 35 years, and familiar diabetes; and folic acid can reduce the risks. The newborns of PE mothers had lower Apgar score at 5 minutes, and lower birth weight; which can be related to poor neurodevelopment, and diabetes or hypertension in adulthood⁽¹⁾. The authors highlighted the need of better pregestational care about maternal obesity control. More recently, they described the results of a study of placenta samples from 14 patients with PE who had cesarean section; 7 with early-onset (EO) PE, and 7 with late-onset (LO) PE (2). Placentas of 7 women with normal pregnancies and healthy newborns were the control group. They studied placental extracellular vesicles (EV) carry FasLigand (FasL) and tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) levels to assess the apoptosis power. Women with EO-PE presented with higher blood pressure levels and premature births, and lower birth weights. The placental explants of this group had a higher release of EV in vitro. There was increased FasL and TRAIL in EV from placentas of women with PE, and higher apoptosis-

inducing capability in Jurkat T cells, consistent with the pathophysiology of PE⁽²⁾.

The authors commented the possible role of EV, FasL, and TRAIL in the immune tolerance regulation both in normal and complicated pregnancies, which should be further evaluated.

The multicenter study by Vigil De-García et al., including pregnant adolescents from five Latin American countries also contribute to manage PE and gestational hypertension⁽⁴⁾. The research was performed in regions with elevated rates of adolescent pregnancy and PE. They compared data of 12 to 19-year-old pregnant females presenting hypertension disorders of pregnancy (HDP) with normal pregnant paired controls, from August 2017 to March 2018. Patients with pressure levels equal to or higher than 140 mmHg systolic or 90 mmHg diastolic; and a proteinuria level of 300 mg/24 hours or higher were diagnosed with PE. Severe PE was characterized by at least one of these criteria: hypertension of 160/110 mmHg or higher, persistent headache, epigastric pain, visual disorders elevated liver enzymes, thrombocytopenia, HELLP syndrome, acute pulmonary or brain edema, or retinal detachment. Cases without the cited severe conditions were considered to have gestational hypertension. The conclusion was that increases equal or superior to 20 mmHg above the systolic or diastolic blood pressure baseline values before 25 weeks of pregnancy can diagnose PE⁽⁴⁾. Besides, adolescents with PE and blood pressure levels equal to or higher than 140/90 mmHg should be managed as severe and need magnesium sulfate for anticonvulsant prophylaxis⁽⁴⁾.

The aim of the comments is to stimulate investigations in low-income areas including diverse age groups of hypertensive pregnant women, and to enhance the knowledge of rural, general, and family physicians, besides specialists in gynecology-obstetrics and paramedic staff of emergency care, on the prevention and management of the severe PE or Eclampsia (blue key).

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