

Chronic Hypertension: so much to learn

Hipertensão Crônica na Gestação: muito a aprender

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It's known that hypertension (HT) is present in approximately 7,5% of pregnancies, according to a Brazilian population-based study,¹ and is responsible for 20 to 25% of maternal deaths, when considering all-causes mortality.² Chronic hypertension (CHT) is usually of primary origin (90-95%), predating pregnancy or having its onset prior to the 20th week of gestation, being defined as systolic blood pressure (BP) \geq 140 mmHg and/or diastolic BP \geq 90mmHg, in at least two measurements.³ A systematic review and meta-analysis of 55 studies, regarding 795,221 pregnancies demonstrated that CHT carries worse maternal and fetal prognosis, such as higher risk of pre-eclampsia superposition, caesarean sections, prematurity, low birth-weight (< 2,500g) and quadruples the perinatal death rate in relation to the general population of American women.⁴

Regarding the article published in this issue of the Brazilian Journal of Nephrology, titled "*Urinary and kidney-function abnormalities in pregnant women with chronic hypertension*" the authors bring our attention to the main cause of morbidity and mortality to both mother and newborn child: hypertensive syndromes.⁵ In particular, they have concerned themselves in evaluating urinary sediment and kidney function, the latter being assessed through already consecrated formulas, yet not validated for use in pregnancy.⁶

This study evaluated 103 pregnant and hypertensive women *vs.* a control group (n = 22) and their findings have shown 64% to have multiple gestations, 7.8% had known kidney disease and

¼ developed pregnancy-related hypertension (pre-eclampsia and eclampsia). Detected abnormalities were: increase in the urinary protein to urinary creatinine ratio in 5.2%, elevated serum creatinine levels in 19.6% and an increase in cystatin C in 14.7% of pregnant women.

We must highlight three epidemiological points of these data: the mean age was of 34 years-old, corroborating the fact that gestations are happening later in women's life, therefore increasing the chance for hypertension; 72% had a BMI \geq 25kg/m², being classified as overweight or obese; and 97% had a family history of HT; all known risk factors in developing HT, both in the general population and in pregnancy. The majority of childbirths were via c-section, which would be expected in a country where the procedure is considered epidemic, but in and of itself CHT shouldn't be considered an indication for the procedure. The newborn's outcome was likewise predictable:⁴ preterm, small for gestational age or low birth-weight. The research also concluded that both CKD-EPI (*Chronic Kidney Disease Epidemiology*) and MDRD (*Modification of Diet in Renal Disease*)² might be applicable when evaluation renal function in pregnant women with CHT.

It's recognized by experts that pregnant women bearing CHT should always be treated as high-risk gestations and need to be followed by a multiprofessional team from the moment they decide to get pregnant, all through the prenatal care, delivery and even in postpartum, capable of instituting pharmacological care that's appropriate and safe, targeting BP levels

of 130-150/80-100mmHg throughout pregnancy,⁷ since there's no sufficient data to recommend a more rigorous control so far.⁸

This study highlights the viability to investigate kidney-function and urinary abnormalities in this group, through means of simple, cost-effective and practical measurements available on the *Sistema Único de Saúde* (Unified Health System). However, continued follow-up of these patients is imperious and new studies are necessary, since one cannot affirm these tests are comparable to their "gold standard" counterparts and it's not yet known if they'll be accurate predictors of poor prognosis and progression to chronic kidney disease.

In such a fertile field, where both national and international literature is needing for further data, this research by Silva Jr. *et al.* is welcome, even if not definitive, evidence on the best ways to tracking kidney disease in pregnant women with CHT. Other important challenges yet unanswered in such group include the behavior of target-organ damage for CHT; which's the best treatment and the proper BP target; how to educate and prepare the older woman that decides to get pregnant, specially if already hypertensive and; how to best enable health-care professionals in assisting those patients, in order to get better outcomes than we have today.

There's certainly a long way to go.

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