

عنوان مقاله:

?Cardiovascular effect of preeclampsia upon offspring development : Are (Pro) renin-renin receptor ((P)RR) and gender related

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خلاصه مقاله:

Objective(s): Preeclampsia (PE) is a complication of pregnancy that might increase progeny risk of cardiovascular and metabolic problems, mainly in males. Renin angiotensin aldosterone system is known to be involved. (Pro) renin/renin receptor ((P)RR) has been shown to participate in cardiovascular pathology. The aim of this work was to evaluate (P)RR expression and function upon cardiovascular and renal tissues from PE dams' offspring. Materials and Methods: We used offspring from normal pregnant and preeclamptic rats, evaluating body, heart, aorta and kidney weight, length, and blood pressure along 3 months after birth. Subsets of animals received handle region peptide (HRP) (0.5 mg/Kg, sc). Another group received vehicle. Animals were sacrificed at first, second, and third months of age, tissues were extracted and processed for immunoblot to detect (P)RR, PLZF,  $\beta$ -catenin, DVL-1, and PKC $\alpha$ . (P)RR and PLZF were also measured by RT-PCR. Results: We found that offspring developed hypertension. Male descendants remained hypertensive throughout the whole experiment. Female animals tended to recover at second month and returned to normal blood pressure at third month. HRP treatment diminished hypertension in both male and female animals. Morphological evaluations showed changes in heart, aorta, and kidney weight, and HRP reverted this effect. Finally, we found that (P)RR, PLZF, and canonical WNT transduction pathway molecules were stimulated by PE, and HRP treatment abolished this increase. Conclusion: These findings suggest that PE can induce hypertension in offspring, and (P)RR seems to play an important role through the canonical WNT pathway and that gender seems to influence this response.

کلمات کلیدی:

Gender, Handle region peptide, Hypertension, Preeclampsia, (Pro)renin/renin receptor, Renin angiotensin aldosterone system

