Kadar prolaktin, ion kalsium, dan magnesium serum pada preeklampsia = The serum level of prolactin, ionic calcium, and magnesium in pre eclampsia

Rustadi Sosrosumihardjo, author

Abstrak

ABSTRAK
Ruang Lingkup dan Cara Penelitian: Pada percobaan binatang kadar prolaktin serum yang tinggi dihubungkan dengan terjadinya edema. Dari penelitian pada hewan dan manusia dengan hipertensi ditemukan perubahan kadar ion kalsium serum. Percobaan in vitro membuktikan bahwa kadar magnesium yang rendah dalam cairan ekstraseluler meningkatkan tonus dan kepekaan pembuluh darah untuk berkontraksi. Gejala edema, hipertensi, dan spasmus pembuluh darah dijumpai pada kehamilan dengan sindroma preeklampsi. Pada manusia kadar prolaktin serum belum pernah dihubungkan dengan terjadinya edema, perubahan kadar ion kalsium serum pada hipertensi masih kontroversial, dan kaitan antara kadar magnesium serum dan spasmus pembuluh darah pada preeklampsi belum diketahui secara jelas. Penelitian ini dilakukan dengan tujuan untuk mendapatkan gambaran mengenai kadar prolaktin, ion kalsium, dan magnesium serum pada preeklampsi, yang mungkin dapat dimanfaatkan dalam menjelaskan permasalahan tadi. Kadar prolaktin ditetapkan dengan cara tera imunoradiometrik, kadar ion kalsium dengan cara elektroda selektif ion, dan kadar magnesium dengan spektrofotometri berdasarkan pembentukan kompleks dengan xylidil blue. Serum diperoleh dari 30 penderita preeklampsi dan 30 orang hamil normal dengan usia hamil antara 32 sampai dengan 43 minggu.

Hasil dan Kesimpulan: Dari analisa terhadap serum tersebut di atas, ternyata 1/ tidak didapatkan korelasi yang bermakna antara kadar prolaktin serum dan derajat edema, 2/ dijumpai korelasi bermakna antara kadar ion kalsium serum dan hipertensi, dan 3/ tidak ada perbedaan bermakna antara kadar magnesium serum pada preeklampsi dan kehamilan normal. Pada preeklampsi didapatkan 1/ kadar prolaktin serum antara 61,7 - 376,7 ng/ml; 2/ kadar ion kalsium 0,99 - 1,19 mmol/L; dan 3/ kadar magnesium serum 1,5-2,4 mg/dL.
<hr><i>ABSTRACT
Scope and Method of Study: In animal, an increase of serum prolactin was related td the development of edema. In animal as well as in hypertensive humans the serum level of ionic calcium was altered. In vitro studies showed that at low level of extra cellular magnesium the tone and contractibility of the smooth muscle of blood vessels was increased. The syndrome of edema, hypertension, and spasm of blood vessels were found in preeclamptic women. The role of prolactin in the development of edema in human was unknown, the changes of ionic serum calcium in hypertension are still controversial, and the relation between serum level of magnesium and the spasm of blood vessels in preeclampsia was unclear. This study was carried out to measure the serum level of prolactin, ionic calcium, and magnesium in preeclampsia, which may be used to clarify the problem. Prolactin was determined by immunoradiometric assay (Abbott), ionic calcium by ion selective electrode (AVL-980), and magnesium by spectrophotometry using xylidil blue. The determination was carried out in 30 subjects with preeclampsia and 30 normal pregnancies, both at 32 - 43 weeks of pregnancy.

Findings and Conclusions: Analysis of the subjects above revealed that: 1/ there was no correlation between serum prolactin and the degree of edema in preeclampsia, 2/ serum ionic calcium showed a good correlation with hypertension, and 3/ there was no difference in serum magnesium in preeclampsia and normal pregnancy. In preeclampsia, the concentration of 1/ serum prolactin is 61.7 376.7 ng/mL; 2/ ionic calcium is 0.99-1.19 nmol/L; and 3/ serum magnesium is 1.5-2.4 mg/dL. In normal pregnancy, the concentrations are: 1/ serum prolactin 92.7-357.3 ng/mL 2/ serum ionic calcium 0.87-1.13 mmol/L, and 3/ serum magnesium 1.6-2.4 mg/dL.</i>