Na+, K+-ATPase and Ca2+-ATPase activities in basal and microvillous syncytiotrophoblast membranes from preeclamptic human term placenta

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Objective: The aim of this study is to evaluate the effect of preeclampsia on the level of lipid peroxidation, activity and expression of both plasma membrane Ca2+- and Na+, K+-ATPases in syncytiotrophoblast. Methods: The level of lipid peroxidation was estimated by measuring TBARS. ATPase activities were quantified by a colorimetric method measuring the amount of inorganic phosphate during the assay. Expression of Ca2+- and Na+, K+-ATPases in syncytiotrophoblast plasma membranes and term placenta tissue sections was investigated using Western blot and immunohistochemistry, respectively. Results: Our results show a higher level of lipid peroxidation of syncytiotrophoblast plasma membranes from preeclamptic, as compared to uncomplicated pregnant women. Preeclampsia also significantly reduced the activity of Ca2+- and Na+, K+-ATPases; however, expression of both ATPases was unaffected. Conclusion: Our findings suggest that the reduction of Ca2+- and Na+, K+-