Influence of Multifactorial Malnutrition in the Lipids Composition of Rat Kidney Membranes

Oliveira, F. S. T\textsuperscript{1,2}; Carvalho, V. C\textsuperscript{2}; Paixão, A. D. O\textsuperscript{1}; Lima, V. L. M.\textsuperscript{2}

Departmento de Fisiologia e Farmacologia\textsuperscript{1}; Departamento de Bioquímica\textsuperscript{2}, Universidade Federal de Pernambuco, Recife, PE, Brazil

Undernutrition has risen as a social and health worldwide problem, especially in underdeveloped countries. The aim of this study was to evaluate the effect of the chronic malnutrition in rats. A low protein diet was given to male \textit{Wistar} rats maintained from conception to age of 60 days. The weight of 60 days old undernourished rats (UDR, n = 21) was 87,0 ± 3,63 g and the control rats (CR, n = 21) weighted 345,6 ± 12,42 g. The UDR presented body mass 75\% lower (p < 0,0001) than CR. The concentration of total phospholipids for UDR groups was significantly reduced 50,06\% (p < 0,02) in comparison of the CR. Similar results were found for the phospholipids classes: phosphatidylethanolamine (46,6\%, p < 0,001); phosphatidylcholine (64,89\%, p < 0,009); sphingomyelin (55,02\%, p < 0,001); phosphatidylserine (59,55\%, p < 0,001). The total cholesterol was reduced in membranes of whole kidney (66\%, p < 0, 05) to CR. The results suggest that the altered lipid content leads to alterations of membrane fluidity and consequentially kidney dysfunctions.

Word Keys: undernutrition, lipids, kidney
Supported by: FACEPE, CNPq and CAPES