Abstract

Cephalalgia. 1989 Sep;9(3):207-11

Cluster headache: incorporation of (1-14C)oleic acid into phosphatidylserine in polymorphonuclear cells.

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BACKGROUND: As recently demonstrated by our group, polymorphonuclear cells (PMNs) from cluster headache patients have an increased ability to incorporate arachidonic acid (AA) and L-serine into phosphatidylserine (PS).

OBJECTIVE AND METHODS: To evaluate whether there is an increased incorporation into PS also from fatty acids not involved in eicosanoid metabolism, PMNs from controls (n = 14) and cluster headache patients (n = 12) were incubated with (1-14C)oleic acid.

RESULTS: After 1 h 2.7% +/- 1.1 (mean value +/- SD) of the glycerophospholipid radioactivity was found in PS in controls, whereas 4.2% +/- 1.2 was found in cluster headache patients (p less than 0.005). For phosphatidylcholine (PC) the corresponding figures were 74.2 +/- 5.4 in controls and 66.7 +/- 7.6 in cluster headache patients (p less than 0.01).

CONCLUSION: The results suggest that the de novo biosynthesis of PS is increased and the biosynthesis of PC is decreased in cluster headache. The results may have an effect on the role of PS as an obligate protein kinase C activator.

PMID: 2507162