

CARTAS AL EDITOR

Changes of Plasma Beta-Endorphin Like Immunoreactivity Induced by Aging

In particular, age-related changes of ACTH, prolactin, LH and FSH plasma levels have been extensively studied (1, 2, 4). On the contrary, relatively little information is available on the roles of and changes in plasma endorphin during age. GENAZZANI *et al.* (3) described the behaviour pattern of plasma Beta-endorphin (B-End) levels in healthy females from 17 to 87 years of age and they showed a progressive and significant increase of B-End plasma levels throughout fertile life, followed by a sudden drop after menopause. However, youngest people and male are not evaluated in this report.

We studied 30 healthy volunteers of both sexes and 10 children scheduled for an elective surgical procedure (phimosis). None of them was receiving any drug therapy at the time of the study or was premedicated with narcotic analgesics or tranquilizers. In all cases, there was no history of pain. Informed consent was obtained from all subjects who volunteered to participate in this study and parental approval was obtained in the children group. The subjects were grouped as follows:

Group 1: 10 children between 9 months 5 years of age.

Group 2: 14 healthy volunteers between 15-30 years of age.

Group 3: 16 healthy volunteers between 31-65 years of age.

Blood samples were collected at 9 a.m. and immediately placed in polypropylene tubes containing EDTA. At this time samples were coded in order to prevent bias by the personnel performing the determinations. Plasma-endorphin like immunoreactivity (B-ELI) was determined by radioimmunoassay with reagents supplied by Immuno Nuclear Corporation (sensitivity 0.3-0.6 fmol/ml, cross reactivity to beta-lipotropin 50 %). The lipotropin free plasma was obtained by addition of sepharose anti-beta lipotropin.

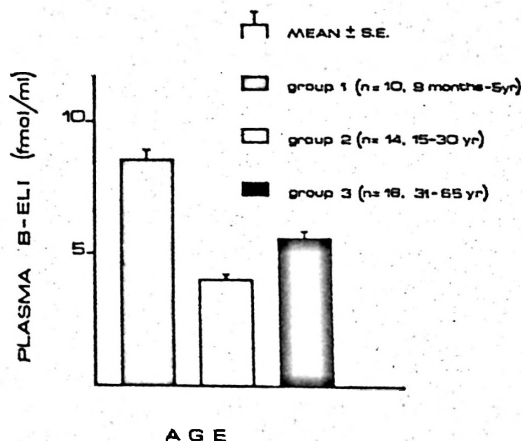


Fig. 1. Plasma Beta-Endorphin like immunoreactivity (B-ELI) concentrations in different age groups.

The endorphin was extracted from plasma with ODS-silica columns.

The B-ELI concentrations found (figure 1) in the children's group (8.56 ± 0.4 fmol/ml) it was significantly ($p < 0.001$) higher than that of the healthy volunteers: group 2 (3.98 ± 0.2 fmol/ml) and group 3 (5.5 ± 0.3 fmol/ml). Endorphin plasma levels increased significantly ($p < 0.001$) from the 15-30 age group (3.98 ± 0.2 fmol/ml) to the 31-65 age group (5.5 ± 0.3 fmol/ml).

The reduction in B-ELI plasmatic levels in the group 2 and the increase in the group 3 make us believe there is no correlation between endorphin plasmatic levels and age.

Key words: Plasma β -endorphin.

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