Abstract

The impact of duration of education, cannabis addiction and smoking on cognition and brain aging is studied in 211 normal Egyptian volunteers with mean age 46.4+/-3.6 years (range: 20-76 years). Subjects were classified into two groups: Gr I (non-addicts) with 174 subjects, mean age 49.9+/-3.8 years (range 20-76 years), smokers and non-smokers, educated and non-educated and Gr II (cannabis addicts) with 37 subjects, mean age 43.6+/-2.6 years (range 20-72 years) all smokers, educated and non-educated. Outcome measures included the Paced Auditory Serial Addition test (PASAT) for testing attention and the Trailmaking test A, and B (TMa and TMb) for testing psychomotor performance. Age correlated positively with score of Trailmaking test (TMb) in the non-addict group and in the addict group (TMa and TMb). Years of education correlated negatively with scores of Trialmaking test (TMb) in the non-addict group (Gr I) but not the addict group (Gr II). However, in both groups mean scores of the Trailmaking test (TMa) were significantly lower in subjects with a primary level of education than those with higher levels of education. No significant difference was detected between male smokers and nonsmokers of Gr I (non-addicts) regarding any of the neuropsychological tests. Yet, smokers and the non-educated group had poorer attention compared to non-smokers of the same group. Cannabis addicts (Gr II) had significantly poorer attention than non-addict normal volunteers (Gr I). It is concluded that impairment of psychomotor performance is age related whether in normal non-addicts or in cannabis addicts. A decline in attention was detected in cannabis addicts and has been considered a feature of pathological aging. Education in early life as well as the duration of education are neuroprotectors for brain aging more so in the non-addict than addict group. Though cigarette smoking per se has no effect on cognitive abilities in normal aging, it becomes evident that its association with lack of education impairs attention.