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**W11 Double-blind, randomized, placebo-controlled clinical trial with a *Polypodium leucotomos* extract in senile dementia**

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Impairment of cognition is the key clinical feature of senile dementia (SD) of both, Alzheimer disease (AD) and vascular type (VD). In spite of clinical, neuropathological and etiological differences, some pathogenic mechanisms of immunoneurodegeneration are shared between both diseases. An special extract obtained from *Polypodium leucotomos* (Anapsos), has shown immunomodulating activity on different cells and proteins of the immune system, and to be efficient as a neuroprotective and procognitive substance on AD animal models. The aim of the present work was to evaluate the effect of two doses of this extract, vs. placebo, in mild to moderate SD (Alzheimer and vascular).

Forty-five patients with SD (Global Deterioration Scale: 3-5), were included in a double-blind randomized placebo-controlled clinical trial. After a 2-week wash-out period with placebo, patients which entered the double-blind running-in period, received extract (360 or 720 mg/day) or placebo for four weeks. ADAScog test, brain mapping and doppler ultrasonography were performed at baseline and after the four week treatment period.

Patients receiving 360 mg/day of Anapsos, showed a significant improvement in cognitive performance (ADAScog score  $p < 0.05$ , vs baseline) that was not observed with the highest product dose. As compared to placebo, Anapsos (360 mg/day) induced a significant improvement in ADAScog scores in mild SD patients ( $p < 0.01$ ) and in the subset of patients with AD ( $p < 0.05$ ). Anapsos (360 mg/day) also increased cerebral blood flow velocities in left and right middle cerebral arteries in the AD subgroup, and showed a shift from  $\delta$  towards  $\theta$  and  $\alpha$  brain bioelectrical activity (BBA) frequencies, indicating an acceleration of the EEG pattern.

In conclusion, Anapsos, at the dose of 360 mg/day, improves cognitive performance, cerebral blood perfusion and BBA in patients with SD, being these effects more marked on patients with mild mental deterioration of the AD group.

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**W12 CYTED, a unique program of exploring Iberoamerican biodiversity for novel natural compounds**

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The Iberoamerican Program of Science & Technology for Development (CYTED) is a multilateral program of cooperation aimed fostering scientific and technological integration of 21 participating countries. The Subprogram X of Fine Pharmaceutical Chemistry since 1990 has been uniting over 1300 natural products scientists in different R&D Centers and industries in Latin America, Spain and Portugal through 5 Thematic Networks and 7 Collaborative Research Projects to discover lead compounds with immunomodulatory, chemotherapeutic, cardiovascular, antiparasitic and anti-inflammatory properties. During this period over 570 scientists have been trained in different facets of natural products drug discovery through workshops, scientific exchanges, and training courses. Some of the results of this collaborative program will be presented along with the research on Panamanian Flora.

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