A009 Anti-inflammatory constituents from *Spinacia oleracea* L. leaves

A.H. Abou Zeid [a] and A.A. Sleem [b]
[a] Pharmacognosy and Chemistry of Medicinal Plants Department, [b] Pharmacology Department, National Research Centre, Dokki, Cairo, Egypt.

Spinach (*Spinacia oleracea* L.) is an annual herb of the family Chenopodiaceae. It is native to West Asia and at present is widely cultivated in the world as one of the most popular vegetables (1). This major vegetable is consumed in most developing countries after decoction of either its fresh or frozen leaves (2). A dry extract of spinach was found to increase the activity of pancreatic enzymes due to stimulation of the pancreatic juice (3). The spinach leaf protein concentrate was found to have a strong lowering effect on the serum cholesterol and increase the concentration of some serum amino acids in rats fed on cholesterol free diet (4). The anti-oxidative effect of spinach was studied by many authors (5,6).
In the current study, half kg of the fresh leaves of *S. oleracea* were extracted with ethanol (95%) in a mixer then filtered. The filtrate was concentrated under reduced pressure, water was added. The aqueous extract was extracted with ether. The ether extract was evaporated to dryness and subjected to TLC. Four compounds, three triterpenoidal and one steroidal were isolated and purified by PTLC using different solvent systems . They were identified by determination of their MP, IR, MS and ^{1}H NMR spectra. They were identified as eupha-8,24-dien-3β-ol (euphol), 9β-euph-7-en-3-one, eupha-7,24–dien-3β-ol (butyrospermol), and 24α-ethyl-5α-cholestadien-3β–ol (α -spinasterol). The anti-inflammatory activity of three doses of the ether extract was investigated using a reported method (7). The results showed significant, dose dependant anti-inflammatory activity. These results are in agreement with those reported about the marked anti-inflammatory activity exhibited by euphol and the other tested triterpenes (8).

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A010 Antioxidant and anti-inflammatory effects of epigallocathecin gallate, a major cathecin from green tea

M.E. Figueira [a,b], H. Mota-Filipe [a,b], B. Sepodes [b], R. Pinto [b], M.I. Barroso [b] and J.M. Gião-T.-Rico [a]
[a] Centro de Farmacologia Exp. e Clínica (Fac Medicina), 1600 Lisboa. [b] Unidade de Farmacologia e Farmacotoxoxicologia (Fac. Farmácia), Av das Forças Armadas, 1600 Lisboa, Portugal.

There is considerable epidemiological evidence that green tea drinking lowers the risk of heart disease. However, the mechanism by which green tea can be protective is unknown. However, a potential mechanism for such effect involves inhibition of lipid peroxidation by polyphenolic antioxidants. One of most important compounds in this group is (-)-epigallocatechin gallate (EGC).The aim of the present work was to evaluate (*i*) the effect of the green tea consumption on the lipidic profile of healthy volunteers; (*ii*) the effect of the EGC on the lipidic profile and paw oedema formation induced by carrageenan in the rat; (*iii*) the effect of EGC on the cytotoxicity induced by hydrogen peroxide in isolated human fibroblasts. The lipidic profile of 15 volunteers (after 1500 ml/day of green tea during 15 days) was determined by an autoanalyzer (Hitachi) through an spectrophotometrical method. Rats were treated with EGC (5 mg/kg, p.o.) during 15 days. In one group, carragenaan was administered in the right paw, after 4 hours the paw volume was determined in a plethysmometer. In an other group, blood was collected for determination of the lipidic profile. Human fibroblasts cultured in 96-well plates were subject to H_2O_2 (3 mM) for 4 hour. Cellular viability was determined by MTT assay. All the comparisons were done by one-way ANOVA, followed by Bonferroni's test (significant when $P<0.05$). When compared with the initial values (day 0), treatment with green tea for 2 weeks resulted in a decrease of total cholesterol, LDL, triglycerides and total lipids. No differences were observed in HDL levels. In rats treated with EGC for 2 weeks no significant changes were observed on the lipidic profile but an inhibitory effect was verified on the paw oedema formation. In concentrations from 0.03 mM, a concentration-dependent protection against cellular injury H_2O_2-induced was observed in human fibroblasts. Our results suggest that consumption of green tea may be associated to a better lipidic profile. EGC, a major green tea catechin component, seems to be, at least in part, responsible for some of the beneficial effects described. In fact, in the rat, EGC had no significant effect on the lipidic profile but showed a marked anti-inflammatory action, as well as an antioxidant effect in cultured human fibroblasts.