

Anti-inflammatory effects of aloe vera gel in human colorectal mucosa in vitro

Alimentary Pharmacology & Therapeutics Volume 19 Issue 5 Page 521-527, March 2004

L. Langmead, R. J. Makins & D. S. Rampton Centre for Adult and Paediatric Gastroenterology, Institute of Cellular and Molecular Science, Barts and the London, Queen Mary School of Medicine and Dentistry, London, UK

Professor D. S. Rampton, Endoscopy Unit, Royal London Hospital, London E1 1BB, UK.

BACKGROUND: Oral aloe vera gel is widely used by patients with inflammatory bowel disease and is under therapeutic evaluation for this condition.

AIM: To assess the effects of aloe vera in vitro on the production of reactive oxygen metabolites, eicosanoids and interleukin-8, all of which may be pathogenic in inflammatory bowel disease.

METHODS: The anti-oxidant activity of aloe vera was assessed in two cell-free, radical-generating systems and by the chemiluminescence of incubated colorectal mucosal biopsies. Eicosanoid production by biopsies and interleukin-8 release by CaCo2 epithelial cells in the presence of aloe vera were measured by enzyme-linked immunosorbent assay.

RESULTS: Aloe vera gel had a dose-dependent inhibitory effect on reactive oxygen metabolite production; 50% inhibition occurred at 1 in 1000 dilution in the phycoerythrin assay and at 1 in 10–50 dilution with biopsies. Aloe vera inhibited the production of prostaglandin E2 by 30% at 1 in 50 dilution ($P = 0.03$), but had no effect on thromboxane B2 production. The release of interleukin-8 by CaCo2 cells fell by 20% ($P < 0.05$) with aloe vera diluted at 1 in 100, but not at 1 in 10 or 1 in 1000 dilutions.

CONCLUSION: The anti-inflammatory actions of aloe vera gel in vitro provide support for the proposal that it may have a therapeutic effect in inflammatory bowel disease.

Aloe vera cuts ulcer risk

BBC News, Thursday, 21 March, 2002

Aloe vera is a well-known painkiller. A gel made from the herb aloe vera may help to treat and prevent stomach and intestinal ulcers. A team from the Barts and London, Queen Mary's School of Medicine and Dentistry have carried out tests which show that the herb has a beneficial effect on the production of substances which help boost the healing process in cases of ulceration in the gut.

The researchers believe aloe vera could be particularly valuable in treating ulcers caused as a side effect of taking anti-inflammatory NSAID drugs. The aloe vera gel was tested on a culture of gastric cells at a concentration that is likely to be found in the stomach after swallowing a dose.

Aloe has been recognised as a painkiller, and since ancient times it has been used to treat burns. It has also been used to treat other skin conditions such as scrapes, sunburns and insect bites.

<http://news.bbc.co.uk/2/hi/health/1883718.stm>