Studies on Blackcurrant Seed Oil and GLA

Test: Treatment of Rheumatoid Arthritis with Blackcurrant Seed Oil

Authors: L. J. Leventhal, E. G. Boyce and R. B. Zurier

Study: The objective of this study was to access the clinical efficacy and side effects of blackcurrant seed oil (BCSO) in a randomized, double-blind, placebo controlled, 24-week trial in patience with RA (Rheumatoid Arthritis) and active synovis.

Results: Treatment with BCSO resulted in reduction in signs and symptoms of disease activity in patience with RA. Patience given a placebo showed no change in disease. Though no patience withdrew to the study due to adverse reactions to the BCSO, many patience with drew because BSCO and the placebo were administered in 15 large capsules daily.

Conclusion: This study indicates that BCSO is a potentially effective treatment for RA. However, means must be found to reduce the size and number of capsules taken daily.

Title: Essential Fatty Acid Metabolism in its Modification in Atopic Eczema

Study: Research from the 1930s to the 1950s established that a deficit of n-6 acids (Essential Fatty Acids) leads to an inflammatory skin condition in both animals and humans In most, but not all studies, administration of GLA has been found to improve the clinically assessed skin condition, the objectively accessed skin roughness and the elevated blood catecholamine concentrations in patients with atopic eczema. The purpose of this particular study was to create a meta-analysis from the placebo-controlled trials conducted up to this time.

Results: The meta-analysis showed a highly significant difference between treatment and placebo groups, particular with regard to the symptom of itching.

Discussion: The results of clinical studies have been mixed, but the balance of evidence indicates that very high doses of linolenic acid or modest doses of GLA produce clinical improvement, particularly with itching. Future work is likely to lead to a more clear understanding of the biochemical basis of atopic eczema.

Title: Systemic linolenic and gamma-linolenic acid therapy in dry eye syndrome with an inflammatory component.

Study: to elevate the efficacy and anti-inflammatory activity of systemic linolenic (LA) and gamma-linolenic acid (GLA), which decrease chronic inflammation in rheumatoid arthritis, on the ocular surface of patience with kerotoconjuctivitis sicca. This was a randomized clinical trial of 26 patience with aqueous-deficient keratoconjunctivitis sicca.

The test groups were given tablets containing LA and GLA, and used tears twice daily for 45 days.

Author: Barabino S., Rolando M., Camicione P., Ravera G., Zanardi S., Guiffrida S., Calabria G.

Results: Statistically significant changes in symptoms occurred in the group compared with controls.

Conclusion: Therapy with LA and GLA and tear substitutes reduces ocular surface inflammation and improves dry eye symptoms. Long-term studies are needed to confirm the role of this new therapy for keratoconjunctivitis sicca.

Title: Effect of Linoleic Acid and Gamma-Linolenic Acid on Tear Production, Tear Clearance and on the Ocular Surface After Photorefractive Keratectomy

Authors: Angelo Marci, Sebastion Giuffrida, Valentina Amico, Michele Iester, Carlos Enrico Traverso

Study: the aim of this study was to elevate the effect of LA and GLA, both precursors of PGE1, on tear production, tear fluorescein clearance and on the ocular surface after photorefractive keratectomy (PRK). Sixty human subjects undergoing PRK enrolled. One group was treated once daily orally with tablets containing LA and GLA, along with one control group.

Results: All patience completed the study. The Schirmer 1 test varied from 16.3±6.9 to 17.6±7.2 for the treated group and from 18.3±6.2 to 15.7±7.4 for the untreated group.

Conclusion: Reduced corneal sensitivity has already been proven for RPK. This could be the main reason for a decrease in tear production and for a reduced blinking rate leading to delay tear clearance. The oral precursors of PGE1, LA and GLA, could be helpful in increasing tear production and clearance after PRK.

Title: Suppression of Acute and Chronic Inflammation by Dietary Gamma Linolenic Acid

Author: Tate G., Mandell B.F., Laposata M., Ohliger D., Baker D.G., Schumacher H.R., Zurier R.B.

Test: We examined the effect of diets rich in gamma linolenic acid (GLA) on acute inflammation induced by monosodium urate crystals, and on subacute and chronic inflammation induced by complete Freund's adjuvant in the rat subcutaneous air pouch and in rats with adjuvant induced arthritis. The degree of inflammation was quantified by

measuring pouch exudates cell concentration, lysosomal enzyme activity, volume, protein concentration and prostaglandin E2 and leukotrien B4 concentrations.

Results: In the chronic air pouch model, the pouch lining was thickened, invaded by mononuclear cells and exhibited proliferation of lining cells 14 days after adjuvant injection. The lesion was far less severe and usual pouch lining architecture was maintained in animals given dietary GLA.

Conclusion: Enrichment of diet with plant seed oils rich in GLA may provide a way to alter generation of prostaglandins and leukotriens and to influence acute and chronic inflammatory responses.

Title: Gamma-Linolenic Acid Treatment of Rheumatoid Arthritis. A Randomized, Placebo-Controlled Study

Author: Zurier RB, Rossetti RG, Jacobson EW, DeMarco DM, Liu NY, Temming JE, White BM, Laposata M.

Test: To assess the clinical efficacy and adverse effects of gamma-linolenic acid (GLA) in the treatment of active rheumatoid arthritis (RA). Fifty-six patience with active RA were randomized during the 6 month single-blind trial period in which all patience received GLA.

Results: Treatment of GLA for 6 months resulted in statistically significant and clinically relevant reductions in signs and symptoms of disease activity in patience with RA. During the 6 months, both groups exhibited improved disease activity. Thus, patients taking GLA during the entire study showed progressive improvement during the second 6 months.

Conclusion: GLA at doses used in this study is a well-tolerated and effective treatment for active RA. GLA is available as a component of several plant seed oils, and though it is not approved in the United States for the treatment of any condition, further studies of GLA an RA are warranted.