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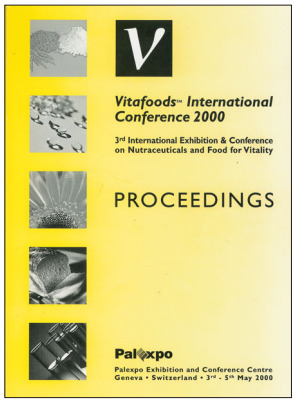
Impact on coagulation, platelet function and fibrinolysis.

Dr Kaj Winther, Københavns AMT (Denmark).

The risk of thrombosis or bleeding is determined by platelet function the functional state of the coagulation cascade and fibrinolysis, our natural protection against thrombosis.
Platelets are small discoid cell's which upon activation aggregate forming a thrombus and liberate different coagulation promoting components. The coagulation cascade consists of different factors, which can end up forming fibrin, a stable network, in which the activated platelets are embedded. To regulate the activity of the cascade there are different inhibitors such as protein S, and protein C.
The fibrinolytic system, in which the cornerstone is tissue plasminogen activator liberated from endothelial cells lining the vesselwall, acts as a counteracting mechanism to platelet activation and fibrine formation.
Testing the impact of any herbal formulation or food regarding possible impact on bleeding or thrombus formation should therefore include a test of the three systems mentioned above.
Garlic have been tested in our laboratory regarding impact on fibrinolysis. We found an improvement in tPA activity and garlic has also been shown to inhibit platelet function. Garlic dont seem to interfere with the coagulation cascade. The outcome of garlic research therefore is that garlic can protect against thrombosis to some extend, as it inhibit platelets and enhances fibrinolysis.
Non-steroidal anti-inflamatory drugs (NSAID'S) and acetylsalicylic acid (aspirin) are often used as pain relief in patients with osteoarthrosis or muscel pain. However both drugs are known for their platelet inhibitory properties which can result in bleeding. A new herbal remidy Hyben Vital (Langeland, Denmark) which contains dry powder from Rosa-Canina, produced under low temperature and under very standardised conditions, has been tested regarding impact on different leucocyte functions and relief of pain in osteoarthrosis. The formulation seem's promising. In contrast to NSAID'S and acetylsalicylic acid HybenVital does not inhibit platelets. Our data also show that fibrinolysis and the coagulation cascade are not influenced by HybenVital. This was also confirmed in patients during anti-coagulation therapy.

Natural Medicine and the Immune System: Immunomodulatory properties of ginseng and antiinflammatory properties of rose-hip.



Kharazmi A. 1, Song J. 1, Winther K. 2 and Høiby N. 1, Department of Clinical Microbiology 1, University Hospital (Rigshospitalet) 1, Copenhagen and Coagulation Laboratory 2, Copenhagen County Hospital in Gentofte, Denmark, University of Copenhagen.

Introduction: Traditional plant medicine has been used extensively for thousands of years in many parts of the world particularly in Developing Countires. In most of these countries herbal medicine is used as the primary treatment for fever, pain, wound and infections for the majority of the population. Many of th.e traditionally used plants have been shown to contain medicinally active compounds. The biologically active compounds in plants have evolved primarily for the protection of plants against invading microorganisms and the harsh environmental conditions. Interestingly, this property of plants is just a side benefit for man. Due to the selection pressure between the plant and its enemies the content of each compound varies as a complex function of genetical and environmental factors and the water/nutrient status of each plant. The use of plants in treating human diseases dates back to thousands of years in many different parts of the world, particularly China, Japan, Africa, Asia and Latin America. The use of herbal medicine has recently received increasing attention in the Western World. On the other hand, there is a growing interest in documentation of the efficacy and the mechanism of action of herbal medicines. This short communication deals with the immunomodulatory properties of ginseng and the antiinflammatory properties of rose-hip.

Antiinflammatory properties of rose-hip

Therapy of inflammatory diseases such as arthritis involves alleviation of the symptoms associated with the disease, such as relief of pain, reduction of inflammation and increase of motion. Acetylsalicylic acid (Aspirin) and other non-steroid anti-inflammatory drugs such as ibuprofen, methotrexate and naproxen, and glucocorticoids have been used for the treatment of arthritis (4,5). Control of the symptoms with these drugs requires long term daily treatment. These drugs have a variety of toxic and other side effects, such as gastric erosion and adverse effects on kidneys and liver. Some of these drugs particularly glucocorticoids inhibit the imuune response to infections. Therefore, there is a great need for alternative therapies for the mangement of inflammatory diseases such as arthritis which can eliminate the need for conventional drugs and their side effects particularly for prolonged daily use.

There have been undocumented layclaims that rose-hip, normally known for its high vitamin C content, may reduce the pain in patients suffering from osteoarthritis. In a series of investigations, we have recently shown that rose-hip extract reduced the chemotaxis of two major inflammatory cells, peripheral blood polymorphonuclear leucocytes (PMNs) and monocytes in vitro . This activity was independent of the vitamin C content of rose-hip. In addition, the level of C-reactive protein (CRP) which is associated with inflammation was reduced in the

subjects under rose-hip treatment. Furthermore, the extract from rose-hip inhibited the oxidative burst response of the PMNs, an important and abundant inflarnmatory cells involved in the pathogenesis of inflammatory diseases. Administration of rose-hip powder for a period of four weeks to healthy volunteers and patients suffering from osteoarthritis, reduced the chemotactic response of peripheral blood neutrophils. Moreover, rose-hip lowered the level of serum creatinine and the acute phase protein CRP in the healthy subjects as well as the patients. The patients in this study reported, that their pain declined after 14 days of rose-hip intake. In all cases the pain returned 12-14 days after stopping intake. The blood chemistry data showed that intake of rose-hip had no harmful effect on any of the liver function determined in these studies (6,7). In summary, the results of these studies indicate that rose-hip possesses antiinflammatory and antioxidant properties. These properties are important in alleviation of pain and tissue damage in the inflammatory sites. As a natural product rose hip has no side effects, is safe and can be administered easily. It can be designed for daily consumption as supplemental part of a therapeutic regimen for some inflammatory diseases, or as a prophylactic regimen for individuals having a genetic or environmental predisposition to these diseases.

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