VSL 220

Prevention of Inflammation with *Perna canaliculus* in a Collagen-Induced Inflammatory Rat Model.

Objective: To evaluate *Perna canaliculus* for its ability to reduce the onset of inflammation and swelling in a collagen-induced inflammatory rat model.

Summary: Collagen-induced arthritis is a recognized animal model for rheumatoid arthritis. Using this model, *Perna canaliculus* (green-lipped mussel) has been studied for its anti-inflammatory properties.

Background: Collagen II injections are used to create inflammation, redness, swelling, and pain in joints to evaluate the effectiveness of specific agents in controlling inflammation and reversing these symptoms. The freeze dried Perna used was produced from the entire mussel (minus the shell) and contains a wide spectrum of potentially active constituents.

Methods: Female Wistar rats obtained from Charles River Laboratories (Wilmington, MA) were divided into two groups (control and treatment). Rats were injected with type II collagen on day zero. The treatment group was fed Perna (100 mg/kg/day) mixed in their rodent chow. Rats were followed for incidence and onset of CIA, as well as degree of paw inflammation. The experimental protocol was carried out under the supervision of the Clemson University Institutional Animal Research Committee.

Results: The control rats showed a 58.3% incidence of inflammation, but the rats in the Perna group only showed a 16.6% incidence. In the Perna treated group the average paw size of 14.2 mm while the average paw size in the control animals was 19.5 mm. Of those rats that developed inflammation and swelling in the Perna group, the degree of inflammation was 37% less based on paw size compared to the control group.

Prevention of Inflammation with *Perna canaliculus*			
Group	*Treatment (mg/kg/day)*	*Incidence of Inflammation (%)*	*Paw Size (mm)*
Control	N/A	58.30%	19.5 ± 3.8
Perna	100	16.6 % *	14.2 ± 0.7*

Rats were treated as indicated and incidence and average paw size were determined. Numbers are given as mean ± s.e.m. * indicates $p<0.05$ compared to controls.

Conclusion: In this model, Perna was found to be effective in reducing the incidence and severity of inflammation.

Clinical Relevence: This study, along with other data, was submitted for publication in 2007 to substantiate the use of Perna for preventing inflammation and supporting overall joint function.

Lawson J, et al. Prevention of inflammation with Perna canuliculus in a collagen-induced inflammatory rat model. Clemson University, 1990. Published in BMC Complimentary and Alternative Medicine, 2007, 7:20.