
Diabetic microangiopathy is associated with pathologic alterations of blood capillaries, involved in typical complications in diabetes, such as retinopathy, nephropathy and diabetic ulcers. In the lower extremities diabetic microangiopathy is characterized by edema (swelling). The development of diabetic microangiopathy is associated with alterations in skin flux (blood micro-circulation) at rest in the foot (RF), venoarteriolar response (VAR), and other microcirculatory parameters. Currently, there is no standard treatment for diabetic microangiopathy. Treatment often consists of regular exercise, elevation of the affected area, and compression stockings or socks. The goal of this prospective clinical trial was to examine the efficacy of Pycnogenol® (Horphag Research; UK), a standardized French maritime pine (Pinus pinaster) bark extract, in the treatment of diabetic microangiopathy. The authors of this study have previously demonstrated efficacy for Pycnogenol in the treatment and prevention of chronic venous insufficiency.1

The authors recruited 30 patients and 30 controls with an average 7.5 year history of diabetes for the clinical trial, conducted in San Valentino, Italy. For four weeks, the patients received 150 mg/day of Pycnogenol (50 mg capsules 3 times daily), and the controls received a placebo 3 times daily. Both patients and controls continued any medication for diabetes. All of the patients and controls completed the clinical trial. The authors observed "very good" compliance and tolerability with the Pycnogenol treatment, and no adverse effects due to study medication were reported. At the beginning of the study, the signs and symptoms of diabetic microangiopathy were similar between the 2 groups. After 4 weeks of treatment with Pycnogenol, capillary filtration, measured as the rate of ankle swelling, was significantly decreased for the patients (P<0.05), showing an improvement in this measurement of diabetic microangiopathy. In contrast, there was no significant difference in capillary filtration for the control group. The VAS, a measurement of reflex vasoconstriction...
upon standing, was significantly increased from a median value of 23 to 38.7 in the patients receiving Pycnogenol (P<0.05), representing an improvement in this microcirculatory parameter. Again, the control group showed no significant difference in VAS. The RF, a measurement of "the skin flux at rest in the foot" employing Laser Doppler, was significantly decreased in the Pycnogenol group (P<0.05), representing an improvement of blood micro-circulation. Once again, there was no significant difference in RF for the control group.

The authors conclude that Pycnogenol is a fast-acting and effective treatment for diabetic microangiopathy. The fast onset of action (4 weeks) could be attributed to Pycnogenol's glucose-lowering and anti-inflammatory effects. Pycnogenol appears to be safe, with "very good" observed tolerability and no adverse effects reported in this study. A clinical trial enrolling a larger group of patients is needed to confirm these promising results.

—Marissa Oppel, MS

References

Enclosure: Referenced article reprinted with permission from Sage Publications.