

Combined Antioxidant Therapy for Chronic Pelvic Pain Associated with Pelvic Varicose Veins in Women

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Abstract

Chronic pelvic pain (CPP) is one of the clinical manifestations of pelvic varicose veins (PVV) in women, and drug therapy remains relevant for patients who are not surgical treatment or prefer a non-invasive approach. Oxidative stress is pathophysiologically substantiated in chronic venous disease and has been demonstrated in PVV, but evidence for conservative treatment is limited, and its effect on complete CPP relief remains insufficiently studied. The aim was to evaluate the effect of combined conservative therapy on CPP relief, pelvic venous haemodynamics and pro-/antioxidant indices. This prospective study included 120 women aged 25–49 years with ultrasound-confirmed pelvic varicose veins, persistent dysmenorrhoea and CPP, all examined by different doctors to confirm the varicose origin of the pain. Patients were sequentially allocated to two parallel groups: group 1 (n = 60) received conventional venotropic monotherapy with a micronised purified flavonoid fraction 1000 mg once daily orally for three months; group 2 (n = 60) received the same therapy plus targeted antioxidants: superoxide dismutase 250 mg, acetyl-glutathione 100 mg and dihydroquercetin 100 mg, each three times daily with meals for 90 days. Pelvic venous haemodynamics were assessed by transvaginal ultrasound before and after treatment; lipid peroxidation products and antioxidant defence enzymes were measured in venous blood by spectrophotometry and enzyme immunoassay. Results. Complete relief of CPP occurred in 51/60 (85.0%) in group 2 and 19/60 (31.7%) in group 1 ($p < 0.001$), absence of dysmenorrhoea in 53 (88.3%) and 29 (48.3%) ($p < 0.001$), and resolution of dyspareunia in 49 (81.7%) and 17 (28.3%) ($p < 0.001$), respectively, whereas changes in menstrual cycle parameters did not differ between the groups (86.7% vs. 85.0%; $p > 0.05$). Both groups showed decreased vein diameter, increased peak antegrade flow velocity and shortened reflux in the ovarian veins ($p < 0.05$), with more pronounced improvement in group 2, including higher flow velocities in the iliac ($p = 0.030$), ovarian ($p = 0.032$) and arcuate ($p = 0.040$) veins. Group 2 also had lower lipid hydroperoxides, diene conjugates and malondialdehyde and higher activity of catalase, superoxide dismutase, glutathione peroxidase, glutathione reductase and glutathione-S-transferase ($p < 0.001$). Conclusion. Combined venotropic and targeted antioxidant therapy is associated with more frequent relief of CPP, dysmenorrhoea and dyspareunia, more pronounced improvement of pelvic venous haemodynamics and a favourable shift in the prooxidant-antioxidant balance. These results substantiate further study of antioxidant therapy within combined conservative treatment of PVV.

Keywords

Chronic Pelvic Pain, Pelvic Varicose Veins, Antioxidant Therapy, Venotropic Therapy, Venous Haemodynamics, Lipid Peroxidation