

Effect of Exercise Training and Dietary Silymarin on Levels of Leptin, Adiponectin, Paraoxonase and Body Composition

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Abstract : The etiology of obesity is heterogeneous with several factors, and the pathophysiology of obesity has recently related to leptin, oxidative damage, and inflammation. Silybum marianum have a health-promoting perspective and has shown that bioactive molecules of silymarin have the antioxidant and antitumor properties and can affect secretion of hormones and enzyme activity in animal. This study aimed to evaluate the antioxidant effects and changes in hormonal levels and body composition after silymarin consumption. Forty-five healthy untrained colleges male take part in the 4-week investigation. The subjects were assigned to 5 groups: endurance training, Silymarin with endurance training, strength training with placebo, Silymarin with strength training or placebo. Body fat percentage and Blood sample analysis were measured before and after the intervention to assay leptin, adiponectin and paraoxonase in the sample of subject's serum. There was a considerable decrease in body fat percent and a significant increase in VO₂ max in 'Strength training' and 'Strength training with Silymarin' groups. But, no significant changes in levels of leptin, adiponectin, and paraoxonase (PON) that were observed between exercise and exercise with Silymarin in these groups. We observed reduction in body fat% and increase in adiponectin induced by exercise for 4 weeks in untrained healthy men. Silybin, could not effectively improve all parameters and don't prevent the progression of cell damage by antioxidant activity of PON.

Keywords : anti-inflammatory activity, antioxidant activity, silymarin, body composition, paraoxonase (PON)

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