HISTOLOGICAL EFFECTS OF *SILYBUM MARIANUM* (L.) GAERTNER SEED EXTRACTS ON THE STOMACH MUCOSA IN RATS

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The milk thistle *Silybum marianum* (L.) Gaertner, a member of the *Asteraceae* family, is among the most ancient of all known herbal medicines. Various preparations of the plant, especially the seeds (fruits), have been used medicinally for over 2000 years to treat liver disorders. It is also referred to as holy thistle, Marian thistle, St. Mary thistle, wild artichoke and kenger (Turkish). The seeds of milk thistle are the medicinal parts of the plant. The primary active constituent of milk thistle is silymarin, which is composed of

le is widely used in Europe, United States, Egypt, and elsewhere for ‘‘liver support’’. Milk thistle/silymarin is thought to work via: (1) preventing entry of various toxins, e.g., alcohol, carbon tetrachloride and heavy metals, into hepatocytes; (2) stimulating protein synthesis with hepatocyte regeneration; (3) acting as a free-radical scavenger and antioxidant; and (4) modulating the immune response. Moreover, silymarin shows antidiabetic, hypolipidaemic, anti-inflammatory, cardioprotective, neurotrophic and neuroprotective effects.

In the present study, the histological effects of *Silybum marianum* seed extract on stomach in rats were investigated. Experiments were performed at Experimental Research Center, Faculty of Medicine, Pamukkale University, Denizli, Turkey. The seeds of *S. marianum* were collected in August 2011 from near Turgutlu, Manisa province (Turkey). Seeds were air-dried, protected from direct sunlight, and then finely powdered. The powdered seeds were put in the flask with ethanol for extraction process. Two different concentrations of the extract were prepared: 1.5% and 2%. The extracts of the plant at the concentrations of 1.5 and 2 ml/100 g body weight/day were administered orally to the two experimental rat groups for 10 weeks. At the end of the experimental period, rats in all groups were sacrificed by cervical dislocation. For histological experiments tissues were fixed, processed and embedded in paraffin. 5 μm sections were stained with Hematoxylin and Eosin, Periodic acid-Schiff stain for histomorphology.

The present work presents histological investigations in mucosal epithelium of the stomach of mice treated with *Silybum marianum* seed extract. The mucous glands in stomach of the experimental group revealed positive reactivities with PAS for neutral mucosubstances. However, mucus material at the concentration of 2% were less than the concentration of 1.5%. These results indicate that plant extract can increase mucous secretion. Presumeably, it may increase the production of glycoproteins of mucosubstances. From this hypothesis, it can be pronounced that further investigations are needed for analysis of the effects of the plant extract on the mucin synthesis.

***Key words*:** *Silybum marianum* seeds, histology, ethanolic extract, stomach.