Effects of melatonin on antioxidant enzymes
in ligature-induced periodontitis in rats liver

M. Özdem

1, F.Y. Kirzioğlu1, H.R. Yılmaz2, A. Yiğit2

Bolu/Turkey, 2İsparta/Turkey

Aim:

Purpose of this study was to evaluate the effect of
melatonin on the activities of antioxidant enzymes in the liver
tissue of ligature-induced periodontitis rats.

Material and Methods:

In the study twenty eight Wistar Albino male rats were used. The rats were divided into four
groups as follows: Healthy(S) saline solution(s), Smelatonin(m),
Periodontitis(P)sand Pm. 3/0 silk ligature were placed at the
gingival margin of the upper second molars in both mandibular
quadrants. Rats in Sm and Pm groups began to receive 10 mg/
kg per day,i.p., melatonin for 2 weeks. Following 2-weeks, all
rats were anaesthetized and then were sacrificed. Liver samples
were collected in order to determine levels of malondialdehyde
(MDA), Superoxide dismutase (SOD), glutathione peroxidase
(GSH-Px).

Results:

MDA levels were higher in P groups when compared

with S groups. SOD and GSH-Px levels lower in Ps group
compared to Pm group as well as MDA level lower in Pm

group.

Conclusion:

Melatonin might caused a decrease in MDA

levels and an increase in SOD and GSH-Px levels and might
regulate the activities of antioxidant