

Effects of combined treatment of amiodarone and vitamin U on rat gingiva

Sehkar Oktay^{1*}, Ismet Burcu Turkyilmaz³, Sarp Kaya², Serap Akyuz², Refiye Yanardag³ & Aysen Yarat¹

¹Department of Basic Medical Sciences, Biochemistry;

²Department of Clinical Sciences, Faculty of Dentistry, Marmara University, Istanbul, Turkey

³Department of Chemistry, Faculty of Engineering, Istanbul University, Istanbul, Turkey

Received 21 August 2017; revised 11 July 2018

Amiodarone a pharmaceutical used for the treatment of arrhythmias, causes many side effects. S-Methylmethionine sulfonium is a derivative of methionine and it is widely referred to as vitamin U (Vit U). In the peer-reviewed literature there is no study reported which focuses on the protective effects of Vit U against amiodarone's side effects on gingiva. In this study, we aimed to investigate the oxidative and inflammatory effect of amiodarone or putative protective role of Vit U on gingiva tissue. Rats were randomly divided into four groups as follows: control group: rats received corn oil; control+Vit U treated group (50 mg/kg/day); amiodarone group (100 mg/kg/day) and amiodarone+Vit U treated group (in same dose). Amiodarone and Vit U were given orally for 7 days. Vit U was given 1 h prior to the administration of amiodarone. Gingival tissues were taken from animals and homogenized in 0.9% NaCl. Lipid peroxidation and sialic acid levels were increased significantly, glutathione levels and superoxide dismutase activities were decreased significantly in the amiodarone group when compared with the control groups. Vit U combination with amiodarone reversed these effects. These results demonstrate that administration of Vit U may have protective effects on gingiva in amiodarone treatment by decreasing oxidative stress.

Keywords: Antiarrhythmic drug, Inflammation, S-methylmethionine sulfonium chloride, Oral tissue, Oxidative stress