CHARACTERIZATIION AND *IN VIVO* DETERMINATION AN ANTIOXIDANTS POTENTIAL OF SOME NATURAL BIOMATERIALS FOR TISSUE ENGINEERING APPLICATIONS

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Abstract -
Recently most studies have focused on plant-based antioxidative materials and biomaterials that act as remedies or preventers of the harms posed by oxidative stress in the organism. There are different methods that provide various way to evaluate potential level of antioxidants. The antioxidants able to neutralize the free radicals in biological cells, which are having a negative impact on living organisms The aim of this study was to *in vivo* examine the potential protective effects of the of Ellagic, Silymarin and Naringin acids, what are known as biomaterials that treat damaged tissue which appears with short-term ischemia/reperfusion (I/R). For this reason 3-4-month-old 49 male Wistar albino rats and plasma and tissue Paraoxonase, Plasma TAS, PON1 and TSA analyzes were used. Experimentally obtained results showed that geraniol administered intraperitoneally has a protective effect at minimum concentration of 100 mg/kg. Results reveal that after using biomaterials TOS, TAS and NO levels decreased while TAS levels increased ($p<0.005$). This work also confirmed the presence of free radical scavenger, anti-inflammatory, radioprotective, antiulcerogenic, analgesic and anticarcinogenic properties of Ellagic, Silymarin and Naringin acids. Given on obtained *in vivo* results we conclude that, they might be considered as a promising candidate to reduce effects and level of oxidative stress in in vivo and vitro applications.

Keywords - Rat, İskemi/Reperfüzyon, SerbestRadikal, Antioksidan