Protective effects of rooibos (*Aspalathus linearis),* green tea (*Camellia sinensis*) and commercial supplements on testicular tissue of oxidative stressinduced rats

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This study compares the modulation of oxidative stress by an indigenous herbal tea, rooibos, Chinese green tea and commercial rooibos and green tea supplements in rat testicular tissue. Male Wistar rats (n = 60) were fed with either fermented rooibos, "green" rooibos, Chinese green tea, commercial rooibos or green tea supplements for ten weeks. Oxidative stress (OS) was induced in all animals by an intraperitoneal t-butyl hydroperoxide injection in the last two weeks of the study. The superoxide dismutase (SOD) activity increased significantly ($P < 0.05$) in the testicular tissue of rats that consumed fermented rooibos, green tea and rooibos supplement as compared to the control. The glutathione levels of rats that consumed the green tea supplement was also significantly ($P < 0.05$) increased when compared with the control. Reactive oxygen species (ROS) levels were significantly ($P < 0.05$) decreased in rats that consumed the rooibos supplement, while lipid peroxidation measured as thiobarbituric acid reactive substances (TBARS) was significantly ($P < 0.05$) decreased in rats that consumed fermented rooibos and green tea. In conclusion, both extracts of fermented rooibos and green tea could be effective in the protection of testicular tissue against oxidative damage by possibly increasing the antioxidant defense mechanisms in rats, while reducing lipid peroxidation.