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## The oxidative stress status of gingival crevicular fluid, saliva and serum in noncompetitive bodybuilders

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Intensive training may cause oxidative stress associated with the onset and progression of chronic inflammatory diseases. As the bodybuilding and protein powder supplements have become popular, the aim of the study was to evaluate and compare the oxidative stress in non-competitive bodybuilders using protein powders and non-exercising males in saliva, gingival crevicular fluid (GCF) and serum. Non-competitive male bodybuilders with gingivitis (BB-G)(n=25) and non-exercising males with (G) (n=25) and without (H) (n=25) gingivitis were included in the study. Serum, saliva and GCF were collected from the participants after 24 hours off acute exercise for total antioxidative status (TAS) and total oxidative status (TOS) analysis using a novel colorimetric method. Oxidative Stress Index (OSI) levels were calculated according to TAS and TOS levels. No differences were found for age, smoking, alcohol consumption and body mass index (BMI) in groups. Serum OSI levels were higher in group BB-G than both groups G and H ( $p<0.01$ ). No differences were found for the saliva OSI between groups ( $p>0.05$ ). GCF OSI levels were higher both in groups BB-G ( $p<0.05$ ) and G ( $p<0.01$ ) than in group H. No correlation was found between saliva and serum TOS, TAS, and OSI levels in group BB-G. Bodybuilding training may disturb the balance between the oxidants and antioxidants in serum, and supplements having antioxidant effects may be inadequate for prevention. No harmful effect in GCF and saliva for oxidative stress was detected in bodybuilders. Saliva may not be an alternative to serum for oxidative stress screening in bodybuilders using protein powder supplements.

### Biography

Eynar Berdeli has completed his DDS from Ege University in 2016. He has been a PhD student at the department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Izmir Katip Celebi University in Turkey since 2017. He has also been an observer in Forsyth Institute, Harvard University and School of Dentistry, University of Louisville in 2015.

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