

FULL TEXT LINKS



Sci Rep. 2014 Jul 2;4:5534. doi: 10.1038/srep05534.

Effects of hydrogen-rich water on aging periodontal tissues in rats

Takaaki Tomofuji ¹, Yuya Kawabata ¹, Kenta Kasuyama ¹, Yasumasa Endo ¹, Toshiki Yoneda ¹,
Mayu Yamane ¹, Tetsuji Azuma ¹, Daisuke Ekuni ¹, Manabu Morita ¹

Affiliations

PMID: 24985521 PMID: [PMC4078318](#) DOI: [10.1038/srep05534](#)

[Free PMC article](#)

Abstract

Oxidative damage is involved in age-related inflammatory reactions. The anti-oxidative effects of hydrogen-rich water suppress oxidative damage, which may aid in inhibiting age-related inflammatory reactions. We investigated the effects of drinking hydrogen-rich water on aging periodontal tissues in healthy rats. Four-month-old male Fischer 344 rats (n = 12) were divided into two groups: the experimental group (hydrogen-rich water treatment) and the control group (distilled water treatment). The rats consumed hydrogen-rich water or distilled water until 16 months of age. The experimental group exhibited lower periodontal oxidative damage at 16 months of age than the control group. Although protein expression of interleukin-1 β did not differ, gene expression of Nod-like receptor protein 3 inflammasomes was activated in periodontal tissues from the experimental group as compared with the control group. Drinking hydrogen-rich water is proposed to have anti-aging effects on periodontal oxidative damage, but not on inflammatory reactions in healthy rats.

Figures

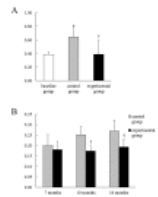


Figure 1. The level of 8-OHdG in...

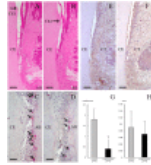


Figure 2. Photomicrographs of rat periodontal tissue.

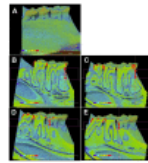


Figure 3 The 3D image model of...

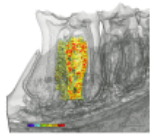


Figure 4. The time base range of...

Related information

[Gene \(nucleotide/PMC\)](#)

[PubChem Compound \(MeSH Keyword\)](#)

LinkOut - more resources

Full Text Sources

[Europe PubMed Central](#)

[Nature Publishing Group](#)

[PubMed Central](#)

Other Literature Sources

[The Lens - Patent Citations](#)

[scite Smart Citations](#)

Medical

[MedlinePlus Health Information](#)