

## Effect of electrolyzed reduced water on Wistar rats with chronic periodontitis on malondialdehyde levels

<https://doi.org/10.20473/j.djmkkg.v50.i1.p10-13>

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**Background:** Periodontal disease is a progressive destructive change that causes loss of bone and periodontal ligaments around the teeth that can eventually lead to its loss. The main bacteria in chronic periodontitis is *Porphyromonas gingivalis*. *Aggregatibacter actinomycetemcomitans*, a pathogen associated with aggressive periodontitis, initiates a proinflammatory response that causes tissue destruction of periodontal, alveolar bone resorption and subsequent tooth loss. Electrolyzed reduced water (ERW) is an alkaline water, ERW not only has a high pH and low oxidation reduction potential (ORP), but also contains several magnesium ions. Magnesium ions proven effective for the prevention of various diseases. **Purpose:** To analyze the level of malondialdehyde (MDA) in Wistar rats with cases of chronic and aggressive periodontitis that consumed ERW. **Method:** Wistar rats were divided into four groups, each group with 10 rats. The first and second group were Wistar rat with chronic periodontitis and consume drinking water and ERW. The third and fourth group were Wistar rat with aggressive periodontitis and consume drinking water and ERW. This experiment is done by calculating the levels of MDA. The calculation of the levels of MDA is done with spectrophotometric assay for MDA. **Result:** The results of this experiment show that the level of MDA in serum in group that consume ERW had decreased significantly different with the group that consume drinking water with the statistical test. **Conclusion:** It can be concluded that ERW can decrease the MDA level in Wistar rat with chronic and aggressive periodontitis case.

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