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## Antioxidant therapy enhances pulpal healing in bleached teeth

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**Objectives:** The purpose of this study was to evaluate the histopathological effects of an antioxidant therapy on the pulp tissue of rat teeth exposed to a bleaching gel with 35% hydrogen peroxide.

**Materials and Methods:** Forty rats were subjected to oral ingestion by gavage of distilled water (DW) or ascorbic acid (AA) 90 min before the bleaching therapy. For the bleaching treatment, the agent was applied twice for 5 min each to buccal surfaces of the first right mandibular molars. Then, the animals were sacrificed at 6 hr, 24 hr, 3 day, or 7 day post-bleaching, and the teeth were processed for microscopic evaluation of the pulp tissue.

**Results:** At 6 hr, the pulp tissue showed moderate inflammatory reactions in all teeth of both groups. In the DW and AA groups, 100% and 80% of teeth exhibited pulp tissue with significant necrosis and intense tissue disorganization, respectively. At 24 hr, the AA-treated group demonstrated a greater regenerative capability than the DW group, with less intense inflammatory reaction and new odontoblast layer formation in 60% of the teeth. For up to the 7 day period, the areas of pulpal necrosis were replaced by viable connective tissue, and the dentin was underlined by differentiated odontoblast-like cells in most teeth of both groups.

**Conclusions:** A slight reduction in initial pulpal damage during post-bleaching was promoted by AA therapy. However, the pulp tissue of AA-treated animals featured faster regenerative potential over time.

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