

# Histological evaluation of Curcuma longa-ghee formulation and hyaluronic acid on gingival healing in dog

**Author(s):** Habiboallah, G (Habiboallah, Ghanbari)<sup>1,1</sup>; Nasroallah, S (Nasroallah, Saghravanian)<sup>1,1</sup>; Mahdi, Z (Mahdi, Zakery)<sup>1</sup>; Nasser, MS (Nasser, Mahdavi Shahri)<sup>2</sup>; Massoud, Z (Massoud, Zakery); Ehsan, BN (Ehsan, Baradaran Nasser); Mina, ZJ (Mina, Zareian Jahromi)<sup>3</sup>; Heidar, P (Heidar, Parsaei)<sup>4</sup>

**Source:** JOURNAL OF ETHNOPHARMACOLOGY **Volume:** 120 **Issue:** 2 **Pages:** 230-241 **DOI:** 10.1016/j.jep.2008.09.011 **Published:** DEC 8 2008

**Times Cited:** 1 (from Web of Science)

**Cited References:** 24 [ [view related records](#) ]  [Citation Map](#)

**Abstract:** Ethnopharmacological relevance: The experimental finding of Asian traditional medicine revealed the pharmacological effect of the local application of ghee which was taken from cow butterfat and the rhizomes of Curcuma longa. These materials significantly improved the healing process of the wound. In addition, ancient physicians of Middle East discovered that the powdered rhizomes of Curcuma longa (common tumeric) also had impressive medicinal qualities. Over the centuries, this spice has been used as a pain relieving, anti-inflammatory agent to relieve pain and inflammation in the skin and muscles.

**Aim of the study:** We decided to mix ghee which was taken from sheep butterfat with the powdered rhizomes of Curcuma longa to formulate a novel cost-benefit material and then, evaluate its potential therapeutic effect on acceleration of surgical wound healing; moreover, this present study was performed to compare the effects of Curcuma longa-ghee formulation and hyaluronic acid on gingival wound healing following surgery.

**Materials and methods:** Five healthy 2-year-old male beagle dogs were used in this study. They had intact teeth and the clinical and radiographic examination revealed no periodontal disease. Ghee was obtained from the refined sheep butterfat heated to 70 degrees C mixed with the powdered rhizomes of Curcuma longa and was applied with two different ratios including materials A and B. Randomly, these three materials including hyaluronic acid, materials A and B were applied topically in test regions and then covered with periodontal pack. Histological changes were monitored in days 4 and 7 after operation to evaluate the inflammatory and repair stage of healing process.

**Results:** We observed significant difference in the inflammatory and repair parameters of the healing process between cases treated with this new formulation and cases of hyaluronic acid application.

**Conclusion:** The results suggested a positive potential therapeutic effect on surgical wound healing particularly improvement of periodontal treatment consequences after surgery. (c) 2008 Elsevier Ireland Ltd. All rights reserved.

**Accession Number:** WOS: 000261896000004

**Document Type:** Article

**Language:** English

**Author Keywords:** Healing; Hyaluronic acid; Curcuma longa; Ghee; Gingivectomy

**KeyWords Plus:** GROWTH-FACTOR-BETA; FATTY-ACIDS; PERIODONTAL DRESSINGS; N-2; WOUNDS; RATS

**Reprint Address:** Mahdi, Z (reprint author), Mashhad Univ Med Sci, Sch Dent, Dept Periodont, Mashhad, Iran.

## Addresses:

1. Mashhad Univ Med Sci, Sch Dent, Dept Periodont, Mashhad, Iran

2. Mashhad Univ Med Sci, Dent Res Ctr, Mashhad, Iran

3. Mashhad Univ Med Sci, Sch Dent, Dept Oral & Maxillofacial Pathol, Mashhad, Iran

4. Ferdowsi Univ Mashhad, Fac Basic Sci, Dept Cellular & Mol Biol, Mashhad, Iran

5. Shahed Univ, Sch Dent, Tehran, Iran

6. Mashhad Univ Med Sci, Sch Med, Pharmacol Res Ctr Med Plants, Dept Pharmacol, Mashhad, Iran

**E-mail Address:** mahdi\_zakery@yahoo.com

## Funding:

Funding Agency	Grant Number
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