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File: ■ Arnica (*Arnica montana*, Asteraceae)
■ Postsurgical Pain
■ Postsurgical Edema

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RE: Arnica May Improve Outcomes for Pain, Bruising, and Edema Following Molar Extraction

Mawardi H, Ghazalh S, Shehatah A. Systematic use of *Arnica montana* for the reduction of postsurgical sequels following extraction of impacted mandibular 3rd molars: A pilot study. *Evid Based Complement Alternat Med*. December 2020:6725175. doi: 10.1155/2020/6725175.

Postsurgical sequels (PSS) are complications following invasive dental surgical procedures including periodontal regenerative surgeries, maxillary sinus augmentation, and extraction of impacted third molars. Complications include pain, extraoral bruising, trismus, and edema. Severity of PSS are associated with the complexity of surgical procedure, underlying medical conditions, age, procedure duration, and experience of the practitioner. Nonsteroidal anti-inflammatory medications (NSAID) and corticosteroids (CO) are common pharmacological interventions. However, these are not practical for all patients. Arnica (*Arnica montana*, Asteraceae) has been shown as an effect alternative to conventional pharmaceuticals to reduce PSS edema. Arnica has been formulated into topical applications as well as homeopathic oral supplements. Arnica is considered safe for human consumption with minimal reported adverse events. The purpose of this case-controlled pilot study was to evaluate the clinical efficacy of systematic arnica for management of PSS following extraction of impacted mandibular third molars.

Patients over the age of 18 with impacted molars of a class II-III surgical difficulty and depth level of B or C indicated for extraction were included. Additionally, patients were included without a history of NSAID or CO use or smoking within the two weeks prior to surgery and no known underlying medical conditions. Patients were excluded with contraindications to arnica including pregnancy and lactating, active smoking, and known allergies to the intervention.

Sixteen patients were recruited through the Farabi Private Collage, School of Dentistry (Jeddah, Saudi Arabia). Seven patients had bilateral impacted mandibular third molars indicated for extraction. The average age was 26 years with a range between 18 and 35 years. A total of 69.5% of patients were female. Study participants were asymptomatic at baseline and referred from an orthodontics service. A total of 30 mandibular third molars were extracted of which 22 were in the arnica group.

Demographic data were collected, and baseline measurements were taken. The visual analogue scale (VAS) was used to record pain level. Extraction was performed by a single oral surgeon to limit potential differences in clinical skills and techniques. Extractions were performed under local anesthesia. Patients were allocated to have extraction of mandibular third molar with or without arnica. In the case of bilateral impactions, one side was extracted without arnica followed by the second extraction on the opposite side with arnica with a minimum two-week resting period between extractions.

Arnica homeopathic tablets (Arnica 30X; Hyland's Naturals; Los Angeles, California) were administered following manufacturer instructions. Tablets were dissolved under the tongue and then swallowed per the following sequence: 4 tablets 1 h before procedure; 4 tablets 4 times/day beginning 1 h following extraction (day 0); 4 tablets 4 times/day on days 1, 2, and 3. A total of 16 tablets were consumed each day except of day 0, when 20 tablets were consumed. On days 2 and 4, patients were contacted by phone to assess pain level, active bleeding, skin bruising, and limitations in mouth opening. On day 7, patients returned to the clinic for reevaluation of maximum mouth opening, facial edema, and assessment of the healing process. Clinical images were taken at baseline and during follow-up.

There were no statistically significant differences between the groups at baseline. The mean extraction procedure duration was 37 minutes and 39 minutes in the arnica and control groups, respectively. On day 2, the arnica group reported significantly lower pain compared to the control ($P = 0.04$). On days 4 and 7, the arnica group scored consistently lower than the control on the VAS for pain, but the difference was not significant. Also on day 2, the arnica group reported significantly less bleeding ($P = 0.004$). None of the patients in either group reported bleeding on day 4.

No significant difference was found between the groups regarding distribution of swelling severity on day 2; however, the swelling was significantly less severe in the arnica group compared to the control ($P = 0.027$). Extraoral bruising was significantly less severe in the arnica group compared to the control ($P = 0.029$). On day 2, the severity of limited mouth opening was significantly less in the arnica group compared to the control ($P = 0.016$). On day 7, no differences in maximum mouth opening were observed between the groups. No other significant differences were shown between the groups for any other parameter. No complications or toxicity related to arnica use was reported.

Limitations of this study include sample size, single dosing regimen, and self-assessment on days 2 and 4. Future studies are need with larger sample sizes and evaluation of arnica from different manufacturers and dosing regimens. Considering these limitations, the authors conclude that arnica has a potential benefit in management of secondary complications following surgical extraction of impacted mandibular third molars. Arnica was shown to be effective in treating pain, bruising, and edema.

The authors declare no conflict of interest.

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Referenced article can be accessed at https://www.hindawi.com/journals/ecam/2020/6725175/.