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File: ■ Myrrh (*Commiphora myrrha,* Burseraceae)
■ Frankincense (*Boswellia carteri, Burseraceae*)
■ Episiotomy
■ Childbirth

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RE: Myrrh Extract Sitz Bath Shows Greater Episiotomy Wound Healing Benefits in Primiparous Women

Faraji A, Aghdaki M, Hessami K, et al. Episiotomy wound healing by *Commiphora myrrha* (Nees) Engl. and *Boswellia carteri* Birdw. in primiparous women: A randomized controlled trial. *J Ethnopharmacol*. January 2021;264:113396. doi: 10.1016/j.jep.2020.113396.

Episiotomy is used to facilitate childbirth by creating a surgical incision in the perineum. This procedure can lead to complications such as hemorrhage, hematoma, infection, pain, and wound dehiscence. Due to these possible complications, episiotomy procedures are rare in Western cultures; however, a high prevalence still exists in developing countries, including an 88.7% to 97.3% usage in Iran. The main treatment for episiotomy wound care is povidone iodine (Betadine®) sitz-baths, which can cause allergic hypersensitivity reactions and delayed wound healing. Due to these adverse effects, herbal remedies are sought to treat episiotomy wounds. In traditional Persian medicine, midwives and traditional healers prescribe myrrh (*Commiphora myrrha*, Burseraceae) and frankincense (*Boswellia carteri*, Burseraceae) resin for topical wounds. Since there is little to no documented evidence for the safety and efficacy of these two botanicals, the authors proposed a single-blinded, randomized clinical trial to compare the effectiveness of myrrh and frankincense to povidone iodine sitz baths on episiotomy wound healing.

This seven-day trial ran from July 2019 to October 2019 at the Hafez hospital, Shiraz University of Medical Sciences, Shiraz, Iran. Inclusion criteria were patients with mediolateral episiotomy; aged 18 to 41 years; preconception body mass index < 25; being primiparous; and gestational age at delivery between 37 to 42 weeks. Exclusion criteria were chronic medical conditions; mental illness; previous perineorrhaphy; perineal hematoma; abscess formation; postpartum fever; prolonged rupture of membranes ≥ 18h; smoking; instrumental delivery; 3rd or 4th degree perineal laceration; postpartum hemorrhage; abnormal presentation; dystocia; and any obstetrical complication.

Resin samples of myrrh and frankincense were purchased from a local herbal market and authenticated by the Faculty of Pharmacy at Shiraz University of Medical Sciences. Hydroalcoholic extracts for myrrh and frankincense were preparing with a 1:5 ratio using 90% ethanol. It was not stated where the povidone iodine was purchased.

Ninety patients were allocated randomly into three groups: myrrh, frankincense, and povidone iodine (n = 30 per group). The following application process was given to each patient: 10 min warm sitz-bath with 20 mL myrrh, frankincense, or povidone iodine (10%) diluted in 5 L of water twice a day for one week. The patients were also educated in hygiene for wound management. They were allowed to take analgesics for the first three days of postpartum. They were not prescribed antibiotic prophylaxis during the study.

The wound healing was ranked using an objective scale that measured the redness, edema, ecchymosis, discharge, and approximation of the skin and fascia (REEDA). Scores ranged from 0 to 3 for each variable, with a total REEDA score between 0 and 15. A lower score indicates optimal would healing. Measurements were made at days zero, two, and seven.

The mean age of patients in each group was 30.03 (myrrh), 31.26 (frankincense), and 30.85 (povidone iodine). There were no significant differences in the demographic characteristics of any of the groups. Myrrh had a significant improvement in redness ($P = 0.027$), and ecchymosis ($P = 0.012$) scores compared to the povidone iodine group. There was also a decrease in approximation of wound edges for myrrh compared to the povidone iodine and frankincense groups on day two ($P = 0.043$) and day seven ($P = 0.027$). There was no significant difference among groups for edema and discharge among the three groups. The total REEDA score was significantly reduced in the myrrh group compared to the frankincense ($P = 0.003$) and povidone iodine ($P < 0.001$) groups on the second day of treatment. On day seven, there was still a significant reduction in REEDA scores when comparing myrrh to frankincense ($P = 0.043$) and povidone iodine ($P = 0.015$), but it was not as significant as day two. No adverse effects were reported.

The authors conclude that myrrh therapy is more beneficial in healing episiotomy wounds in comparison to frankincense and povidone iodine. The improved approximation of wound edges coincides with previous findings the authors found, suggesting that myrrh may increase the number of fibroblasts at wound sites. Further research with other topical wounds could be beneficial in post-surgery treatments. Limitations of this study include lack of control of application, differences in natural healing processes, and lack of long-term follow-ups.

The authors state no conflict of interests.

—Dani Hoots

The American Botanical Council has chosen not to reprint the original article.