



# HerbClip™

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**File: ■ St. John's Wort (*Hypericum perforatum*) Oil**  
**■ Neem (*Azadirachta indica*) Oil**  
**■ Postsurgical Scalp Wounds**  
**■ Exposed Bone**

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**RE: Combination of St. John's Wort Oil and Neem Oil Promotes Healing of Scalp Wounds**

Läuchli S, Hafner J, Wehrmann C, French LE, Hunziker T. Post-surgical scalp wounds with exposed bone treated with a plant-derived wound therapeutic. *J Wound Care*. May 2012;21(5):228-233.

Tumors of the scalp that require surgery can create large defects that need to be covered with flaps or skin grafts, or left to heal by secondary intention. Conservative treatment options to enhance healing by secondary intention typically involve a moist wound-healing environment.<sup>1</sup> Even with the correct moisture balance, however, most wounds with exposed bone do not heal and require advanced treatments such as bioengineered skin substitutes, surgical treatment, or negative-pressure wound therapy combined with skin grafts.<sup>2-5</sup> A new plant-derived wound therapeutic consisting of a mixture of St. John's wort (*Hypericum perforatum*) oil and neem (*Azadirachta indica*) oil, called 1 Primary Wound Dressing® (ONE) (Phytoceuticals AG; Zurich, Switzerland), is designed to create a moist wound-healing environment, with the oil layer preventing the secondary dressing from adhering to the wound. As ONE is easy to apply as a spray and has a broad mode of action, it is indicated in the treatment of scalp wounds with exposed bone. This retrospective, non-controlled study was designed to evaluate the effectiveness of this product in treating scalp wounds with exposed bone.

A retrospective review was performed on all patients with postoperative scalp wounds with exposed calvarial bone following excision of skin tumors at the Department of Dermatology in the University Hospital of Zurich in Zurich, Switzerland from January to July 2011. All wounds had been treated with a split-thickness skin graft, which was not successful because of insufficient blood supply or desiccation of the tissue.

ONE was applied daily on each patient's wound and peri-wound skin, which were then covered with nonwoven gauze or an absorbent dressing without any active compound. When necessary, the wound was debrided and cleaned.

Treatment was continued until the soft tissue defect was covered by granulation tissue and secondary epithelialization. Wound healing was defined as complete closure by secondary

epithelialization, and the treatment period was defined as the time between the first application of ONE and complete wound closure.

Patients were seen at least every 2 weeks by a wound care specialist. Before starting treatment and at every clinical visit, the wounds were photographed with a ruler to indicate wound size, as well as the area of exposed bone. At each follow-up visit, pain, clinical signs of infection, and any adverse side effects were recorded.

Nine patients (mean age=81.2 ± 8.5 years) were included in the study, with the following diagnoses: squamous cell carcinoma (n=4); lentigo maligna (n=1); atypical fibroxanthoma (n=1); and basal cell carcinoma (n=3). The mean size of the scalp wound on presentation was 13.2 ± 6.8 cm<sup>2</sup>, and the mean area of exposed bone was 6.8 ± 6.5 cm<sup>2</sup>.

The authors report that all soft tissue defects were completely healed, without any further intervention. The mean treatment period was 9.3 ± 4.8 weeks. At 4 weeks of treatment, the mean wound size reduction was 9.04 cm<sup>2</sup>, and the mean reduction of the exposed bone area was 6.2 cm<sup>2</sup>. In 6 of 9 patients (67%), the bone was completely covered by granulation tissue at 4 weeks. And, after 6 weeks of treatment, the wound was fully epithelialized in 7 patients (78%).

The beneficial effects of the plant-derived ONE wound dressing may be explained by the antimicrobial activity of the fatty acids contained in the spray, the balanced moist environment created by the semi-occlusive oil layer, and the fact that the oil prevents the secondary dressing from adhering to the wound, say the authors. In this study, none of the patients experienced severe pain during the entire treatment period, and no patients showed signs of allergic reactions or other side effects. Dressing change was easy and without pain. Limitations of the study include the small sample size, the recruitment of subjects from a single center, and the retrospective analysis of the data.

The results of this study suggest that, "A plant-derived wound dressing (ONE) is a promising therapy to support the healing process of post-surgical scalp wounds with exposed bone," and larger controlled trials should be conducted.

—Shari Henson

#### References

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- <sup>3</sup>Snow SN, Stiff MA, Bullen R, Mohs FE, Chao WH. Second-intention healing of exposed facial-scalp bone after Mohs surgery for skin cancer: review of ninety-one cases. *J Am Acad Dermatol*. 1994;31(3 Pt 1):450-454.
- <sup>4</sup>Bickels J, Kollender Y, Wittig JC, et al. Vacuum-assisted wound closure after resection of musculoskeletal tumors. *Clin Orthop Relat Res*. 2005;441:346-350.
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