

5th International Conference on

## **Clinical & Experimental Dermatology**

July 13-15, 2015 New Orleans, USA

## Medicinal plants with topical anti-inflammatory activity: Bryophyllum pinnatum (Lam.) Oken

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Topical treatments of skin diseases aggregate many advantages, such as the avoidance of hepatic first-pass metabolism and "site-specific" drug delivery. Through the history of mankind, plants have been used worldwide in Traditional Medicine for this purpose of topical treatment of infections and inflammation, e.g. Arnica Montana, Lychnophora passerina, Rosmarinus officinalis, Arctium minus and Pterodon emarginatus. The major classes of secondary metabolites by means of which those plants demonstrate anti-inflammatory activity are those produced from the (acetate-) shikimate pathway, such as flavonoids and phenylpropanoids derivatives; as well as terpenoids and steroids. Flavonoids, such as flavonols (e.g. quercetin and kaempferol) and flavones (e.g. apigenin and luteolin), exert anti-inflammatory activity through different mechanism of action, including the inhibition of pro-inflammatory enzymes (e.g. PLA2, COX, LOX and iNOS) and nuclear transcription factors (e.g. NF-kB), besides antioxidant activity. Bryophyllum pinnatum (Lam.) Oken (Crassulaceae), popularly known in Brazil as "fortune-leaves", is used in Traditional Medicine for the external and internal treatment of inflammation, infection, wound, burn, boil, ulcers and gastritis. Recent results have justified the traditional use of this plant species as a remedy for skin disorders, once confirmed the efficiency of Bryophyllum pinnatum as a topical anti-inflammatory agent in acute and chronic inflammatory processes possibly due to inhibition of arachidonic acid pathway. The ethanol extract of this plant was able to inhibit the ear edema induced by different irritant agents in mice and histopathological analyses confirmed this effect since it was observed reduction of edema, epidermal hyperplasia, inflammatory cells infiltration and vasodilation.

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## Low power laser can be used for the treatment of difficult to treat ulcers in epidermolysis bullosa

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Epidermolysis bullosa (EB) is a heterogenous group of genetic diseases characterized by skin fragility, trauma induced erosions and ulcers in the skin and mucosa. Although there are a number of modalities which can help these patients including specific dressings (e.g., Mepilex), management of this group of diseases is still very challenging. Low power laser has recently been used for the treatment of difficult to heal ulcers. In our study, we used this type of laser for the treatment of ulcers and erosions of patients with EB and compared it with the standard dressing used for EB patients i.e., Mepilex. We found out that this laser is more successful because it reduces pain more rapidly and more effectively and the time to heal is less with the laser compared with that of Mepilex. We found out that this type of laser can be considered as a valuable modality for the treatment of this very challenging disease.

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