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Non pharmacotherapeutic approach to oral mucosal lesions

Cryotherapy - Photodynamic Therapy - Laser Therapy

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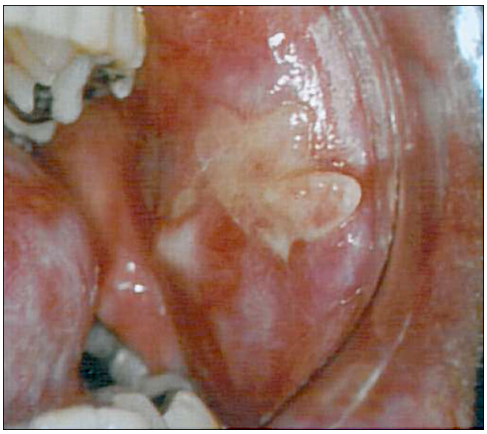
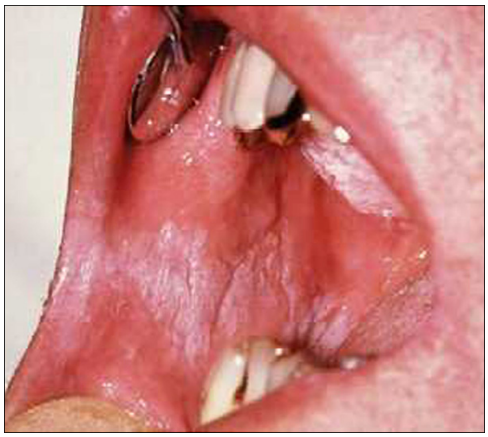
Introduction

Oral mucosal lesions are common disease majority of which are uncertain in origin. Many patients with these mucosal lesions were refractory to available therapies especially when chronic inflammatory conditions are considered. Treatment of these variants represent a perplexing therapeutic challenge. Despite, numerous existing pharmacotherapies there many treatment failures. Pharmacotherapy in mucosal lesion were aimed primarily in reducing the length and severity of symptomatic outbreak. Non pharmacotherapeutic approach to the management of these mucosal lesions is an emerging modality with promising results.





Material and Methods

CRYOTHERAPY:
Cryotherapy (Cold Therapy) is the local or general use of low temperatures in medical therapy or the removal of heat from a body part. Its goal is to decrease cellular metabolism, increase cellular survival, decrease inflammation, decrease pain and spasm, promote vasoconstriction, and when using extreme temperatures, it destroy cells by crystalizing the cytosol.
Mechanism: Acts by taking heat of the biologic system by a cryogenic object. Tissue undergoes inflammation and / or causes destruction and finally necrosis of the area through freezing.
Materials: Nitrogen oxide (-89.50 C) and Liquid Nitrogen (-1960 C)
Indications: Oral leukoplakia, Papilloma, Fibroma, Pigmentation.
Merits: Simple and quick, lack of bleeding and scar, low incidence of infection, localized in action.
Demerits: Unpredictable swelling, lack of precision with depth and area of freezing, highly dependent on operator skill and experience.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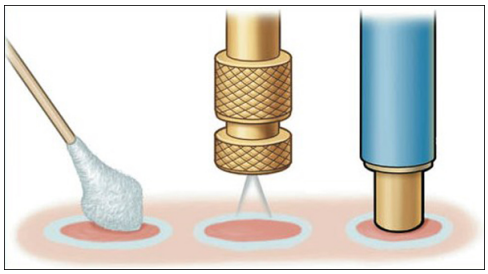
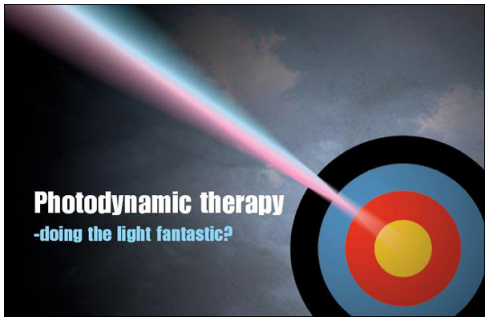
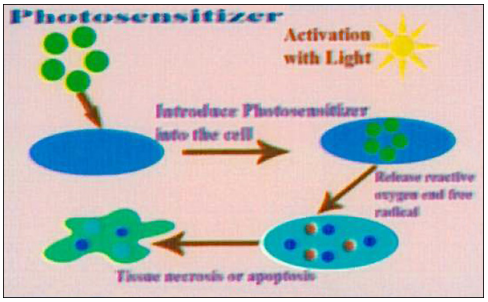
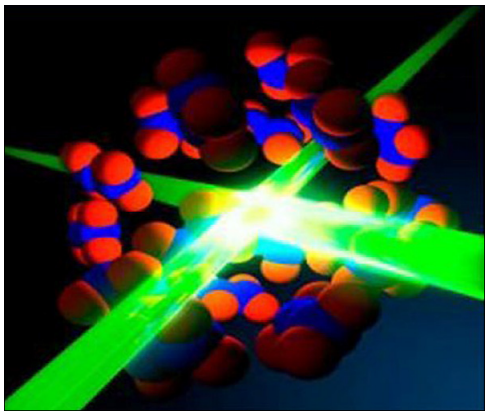


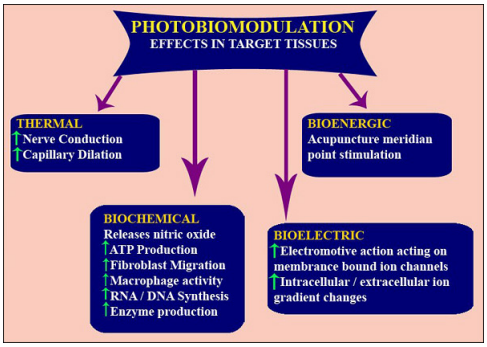
PHOTODYNAMIC THERAPY:
Photochemotherapy or Psoralen Ultraviolet A therapy is a type of ultraviolet radiation treatment used for severe skin and mucosal diseases. Photodynamic therapy is a new, non-invasive therapeutic method for selective destruction of malignant tissues. It is based on the cytotoxic action of reactive forms of oxygen originated during interaction of monochromatic light with photosensitizers accumulated in pathological foci.
Mechanism: Photosensitizers when exposed to light of specific wavelength in the presence of oxygen releases oxygen free radicals which causes the tissue response.
Indications: Chronic Infections like HSV, HPV, HHV - PACT (Photodynamic Antimicrobial Chemotherapy), Malignant transformation of Oral lesions - PDD (Photodynamic diagnosis).
Merits: Initial healing very rapid, final quality of functional healing excellent, excellent cosmetic result, low scarring.
Demerits: Slight discomfort during and after treatment, 25% of normal cells affected, ineffective in deeper lesions, two to three settings needed in thicker lesions.





LASER THERAPY:
Photobiomodulation (Low level laser therapy) – exposure to low level laser light stimulate or inhibit cellular function leading to beneficial clinical effects.
Types: Carbon di oxide, Argon, Nd:YAG, Homium: YAG. (FDA approved)
Indications: Oral leukoplakia, Oral lichen planus, Oral mucositis, Papilloma, Pyogenic granuloma, Melanosis.
Risk and Side Effects: Risk of eye damage, temporary increase in pain, redness and warmth in irradiated area.





Results

This poster illustrates few Non pharmacotherapeutic approaches in the management of oral mucosal lesions. These emerging modalities were used effectively in treating the mucosal lesions.

This Poster was submitted by Dr. D. Gayathiri.

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Poster Faksimile: