Role of Hyperbaric Oxygen Therapy (HBOT) in Chronic Wound Management

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ABSTRACT

Hyperbaric oxygen therapy (HBOT) is a short-term , high dose oxygen inhalation and diffusion therapy, delivered systematically through airways and blood under high pressure by using hyperbaric chambers . HBOT stimulates angiogenesis , reduce edema , augments granulation tissue formation by enhancing fibroblast ,and improves leukocyte function by elevating the partial pressure of oxygen in tissue . Chronic wounds, defined as those wounds which fail to proceed through an orderly process to produce anatomic and functional integrity, are a significant socioeconomic problem. A wound may fail to heal for a variety of reasons including the use of corticosteroids, formation of squamous cell carcinoma, persistent infection, unrelieved pressure, and underlying hypoxia within the wound bed. Hypoxia appears to inhibit the wound healing process by blocking fibroblast proliferation, collagen production, and capillary angiogenesis and to increase the risk of infection. Among advanced therapeutic interventions for wounds , Hyperbaric oxygen therapy (HBOT) has the unique ability to ameliorate tissue hypoxia, reduce pathologic inflammation, and mitigate ischemia reperfusion injury . In this presentation we explain role of HBOT in chronic wound management by data collecting from review of journals in this field for previous ten years.

Keywords: Hyperbaric Oxygen Therapy , Chronic Wound , Hypoxia