

Role of Hyperbaric Oxygen Therapy in Management of Diabetic Foot

Authors : Magdy Al Shourbagi

Abstract : Diabetes mellitus is the commonest cause of neuropathy. The common pattern is a distal symmetrical sensory polyneuropathy, associated with autonomic disturbances. Less often, Diabetes mellitus is responsible for a focal or multifocal neuropathy. Common causes for non-healing of diabetic foot are the infection and ischemia. Diabetes mellitus is associated with a defective cellular and humoral immunity. Particularly, decreased phagocytosis, decreased chemotaxis, impaired bacterial killing and abnormal lymphocytic function resulting in a reduced inflammatory reaction and defective wound healing. Hyperbaric oxygen therapy is defined by the Undersea and Hyperbaric Medical Society as a treatment in which a patient intermittently breathes 100% oxygen and the treatment chamber is pressurized to a pressure greater than sea level (1 atmosphere absolute). The pressure increase may be applied in mono-place (single person) or multi-place chambers. Multi-place chambers are pressurized with air, with oxygen given via face mask or endotracheal tube; while mono-place chambers are pressurized with oxygen. Oxygen gas plays an important role in the physiology of wound healing. Hyperbaric oxygen therapy can raise tissue oxygen tensions to levels where wound healing can be expected. HBOT increases the killing ability of leucocytes also it is lethal for certain anaerobic bacteria and inhibits toxin formation in many other anaerobes. Multiple anecdotal reports and studies in HBO therapy in diabetic patients report that HBO can be an effective adjunct therapy in the management of diabetic foot wounds and is associated with better functional outcomes.

Keywords : hyperbaric oxygen therapy, diabetic foot, neuropathy, multiplace chambers

Conference Title : ICFSNPH 2016 : International Conference on Food Safety, Nutrition and Public Health

Conference Location : Zurich, Switzerland

Conference Dates : July 21-22, 2016