

Possible application of hyperbaric oxygen technology in the management of urogenital and renal diseases.

[Al-Waili NS](#), [Butler GJ](#), [Lee BY](#), [Cary Z](#), [Petrillo R](#).

Life Support Technology Groups, Chronic Wound Care and Hyperbaric Center, Mount Vernon Hospital, Sound Shore Health System; Department of Medicine, Mount Vernon Hospital; and Department of Surgery, New York Medical College, Westchester, New York, USA.

J Med Eng Technol. 2009 May 29:1-9.

The purpose of this report is to explore possible therapeutic use of hyperbaric oxygen (HBO(2)) technology on renal and urogenital diseases. HBO(2) reduces inflammation, immunity and inflammatory cytokines, stimulates wound repair and angiogenesis, maintains tissue oxygenation, increases antioxidant enzymes and heals tissue hypoxia and radionecrosis. A literature review of peer-reviewed articles that address HBO(2), genitourological diseases, renal disease, and dialysis was performed. The paper reviews complications of renal diseases, dialysis, clinical applications of HBO(2), and effect of HBO(2) on renal and urogenital diseases. HBO(2) was used successfully to treat calcific uraemic arteriopathy, and in many cases of acute renal failure. This technique is particularly useful in the treatment of intractable haemorrhagic cystitis secondary to pelvic radiation therapy and Fournier's gangrene. Clearly HBO(2) might play a role in the management of urogenital diseases, urinary bladder dysfunction and diseases, testicular pathology, renal diseases, and post-traumatic ischaemic injury and/or impaired wound healing and infections. The possible role of HBO(2) for autoimmune diseases, uraemic osteodystrophy or neuropathy due to chronic renal diseases is discussed. The clinical application of this technology is expanding and the various biological influences of HBO(2) encourage testing its possible benefit in renal and urological diseases.

PMID: 19484683 [PubMed - as supplied by publisher]