Hyperbaric oxygen therapy for necrotizing soft tissue infections: contra.

[Article in German]

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Abstract

INTRODUCTION:
Hyperbaric oxygen therapy (HBOT) is discussed as an adjuvant option to treat necrotizing soft tissue infections (NSTI). While the Federal Joint Committee decided in 2007 not to support HBOT for the indication necrotizing fasciitis and Fournier's gangrene, it was decided to accept HBOT for treatment of clostridial myonecrosis for the German health insurance. Thus, in Germany necrotizing fasciitis (NF) is not a confirmed indication for HBOT. Against this background the cons of the clinical benefits of HBOT should be formulated.

METHODS:
A literature search (MEDLINE/EMBASE/COCHRANE/manual search) using the keywords "necrotizing fasciitis", "Fournier's gangrene", "necrotizing cellulitis", "necrotizing soft tissue infections" as well as "hyperbaric medicine", "hyperbaric therapy" and "hyperbaric treatment" was carried out. An analysis of the spatial distribution of German hyperbaric oxygen chambers enabling intensive care (HOC-IC) was made.

RESULTS:
A total of 250 articles with n=2,556 NSTI patients (n=993 treated by HBOT) was found and 50% of the articles were case reports or series. There were only ten retrospective studies comparing the effects of HBOT with non-HBO treatment and none of them verified the benefit of HBOT in NF patients. In Germany only nine hyperbaric oxygen chambers (HOC-IC) enable intensive care. Currently, patient data are not included in scientific studies or multicenter studies, while studies assessing the benefit with higher evidence levels have been required for more than 15 years.

CONCLUSIONS:
The previously published human clinical studies do not confirm any therapeutic benefit of HBOT in NF patients. Any time delay in the start of surgical therapy by HBOT would not be acceptable. In Germany a comprehensive clinical care with HOC is not possible. On average the additional costs of HBO treatment for NF patients is approximately 8,000-25,000 <euro>/patient which is not generally reimbursed by health insurance companies. Initializing a register study to assess the benefit of HBOT in NF patients appears feasible and is urgently needed.

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