

C R Acad Sci III. 2001 Aug;324(8):719-24. doi: 10.1016/s0764-4469(01)01350-6.

Anti-inflammatory properties of molecular hydrogen: investigation on parasite-induced liver inflammation

B Gharib ¹, S Hanna, O M Abdallahi, H Lepidi, B Gardette, M De Reggi

Affiliations

PMID: 11510417 DOI: [10.1016/s0764-4469\(01\)01350-6](https://doi.org/10.1016/s0764-4469(01)01350-6)

Abstract

Molecular hydrogen reacts with the hydroxyl radical, a highly cytotoxic species produced in inflamed tissues. It has been suggested therefore to use gaseous hydrogen in a new anti-inflammatory strategy. We tested this idea, with the aid of the equipment and skills of COMEX SA in Marseille, a group who experiments with oxygen-hydrogen breathing mixtures for professional deep-sea diving. The model used was schistosomiasis-associated chronic liver inflammation. Infected animals stayed 2 weeks in an hyperbaric chamber in a normal atmosphere supplemented with 0.7 MPa hydrogen. The treatment had significant protective effects towards liver injury, namely decreased fibrosis, improvement of hemodynamics, increased NOSII activity, increased antioxidant enzyme activity, decreased lipid peroxide levels and decreased circulating TNF-alpha levels. Under the same conditions, helium exerted also some protective effects, indicating that hydroxyl radical scavenging is not the only protective mechanism. These findings indicate that the proposed anti-inflammatory strategy deserves further attention.

Related information

[PubChem Compound \(MeSH Keyword\)](#)

LinkOut - more resources

Full Text Sources

[Elsevier Science](#)

Other Literature Sources

[The Lens - Patent Citations](#)

Medical

[ClinicalTrials.gov](#)

[MedlinePlus Health Information](#)