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Ozone therapy in ethidium bromide-induced demyelination in rats: possible protective effect [abstract]

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ABSTRACT

Background. Multiple sclerosis is an autoimmune inflammatory disease of the central nervous system and it is characterized by excessive demyelination

Purpose. The study aim to investigate the possible protective effect of ozone (O3) in ethidium bromide (EB) induced demyelination in rats either alone or in combination with corticosteroid in order to decreases the dose of steroid therapy.

Material and Methods. Rats were divided into 7 groups:
- Group (1) normal control rats received saline.
- Group (2) sham-operated rats received saline.
- Group (3) sham operated rats received oxygen.
- Group (4) EB-treated rats received EB.
- Group (5) EB treated rats received oxygen.
- Group (6) EB treated rats received methyl prednisolone (MP)
- Group (7) EB treated rats received half the dose of MP concomitant with ozone.

Results. Significant improvement in the brain serotonin, dopamine, noradrenalin. A reduction of MDA,TNF-COX2 immune-reactivity was noticed in MP and oxygen groups .

Furthermore, best amelioration was achieved by combining half the dose of methyl-prednisolone with ozone..

Conclusion. We concluded that ozone has a protective effect on demyelination and can be used due to its protective effect in demyelinating diseases such as multiple sclerosis.

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