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Title: Magnesium sulfate suppresses electroencephalographic manifestations of CNS oxygen toxicity

Authors: Katz, A
Kerem, D
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Abstract: We studied the effects of parenteral magnesium sulfate (MgSO₄) administration on electroencephalographic seizures induced by hyperbaric oxygen (HBO) in awake rats. Sixteen rats chronically implanted with electrocorticographic electrodes were preinjected i.p. with either vehicle or 3 mmol/kg MgSO₄ (the latter resulted in serum levels of 3.5-5.5 mmol/liter) and then exposed to 6 ATA O₂ in a pressure chamber. The time to develop an electric ictal seizure was measured and compared to that in the same animal receiving the alternate treatment 3 days later. Mean and median times after the magnesium treatment were almost double those of vehicle administration. A central anticonvulsive action of magnesium, which should be investigated over the entire HBO range, is indicated.

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