Efficacy of a jellyfish sting inhibitor in preventing jellyfish stings in normal volunteers


Objective: To evaluate the protective effects of a jellyfish sting inhibitor formulated in sunscreen lotion vs conventional sunscreen against Chrysaora fuscescens and Chiropsalmus quadrumanus jellyfish.

Methods: Twenty-four healthy subjects at 2 research sites were randomly assigned to receive the jellyfish sting inhibitor (Nidaria Technology Ltd, Jordan Valley, Israel) to one forearm and conventional sunscreen to the other arm in a blinded fashion. Subjects were stung with jellyfish tentacles on each forearm for up to 60 seconds. Erythema and pain were assessed at 15-minute intervals over a 2-hour period.

Results: In the C. fuscescens group, all 12 arms pretreated with conventional sunscreen demonstrated erythema, and all subjects noted subjective discomfort. In contrast, no arm pretreated with the jellyfish sting inhibitor had objective skin changes (P < .01). Two subjects noted minimal discomfort in the arm treated with the sting inhibitor (P < .01). In the C. quadrumanus group, discomfort was reported in 3 of the 12 inhibitor-treated arms compared with 10 of the 12 placebo-treated arms (P < .05). Erythema was noted on 1 arm treated with the inhibitor and 9 arms treated with the placebo (P < .01).

Conclusions: The jellyfish sting inhibitor prevented sting symptoms of C. fuscescens jellyfish in 10 of 12 subjects and diminished the pain of the jellyfish sting in the remaining 2 subjects. The jellyfish sting inhibitor also inhibited the more severe sting of the C. quadrumanus jellyfish in the majority of subjects. The jellyfish sting inhibitor does not eliminate the sting from C. fuscescens or C. quadrumanus jellyfish but significantly reduces the frequency and severity of stings.

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Cerebral effects of hyperbaric oxygen breathing: a CBF SPECT study on professional divers


We investigated the effects on cerebral blood flow (CBF) of pure oxygen breathing exposure during dives in a group of professional divers, in both the normobaric (NBO) and the hyperbaric oxygen (HBO) breathing conditions. Using single photon emission computerized tomography (SPECT) and Tc-99m hexamethylpropylenamine oxime (HM-PAO), we studied 10 young divers and six normal volunteers. Divers were studied by SPECT in the NBO and HBO conditions, in two different sessions. The HBO state was obtained in a hyperbaric chamber at 2.8 ATA for 15 min. By ANOVA, we did not observe any significant difference in CBF distribution between controls and divers in both NBO and HBO conditions. By individual analysis, divers showed a decreased CBF in a total of 33 regions of interest (ROIs) during NBO and 46 ROIs during HBO with respect to control values. In particular, two divers showed a remarkable increase in the number of hypoperfused ROIs during HBO (+7 and +5 ROIs, respectively). Pure oxygen breathing exposure in young divers is associated with a patchy distribution of brain areas of hypoperfusion. This phenomenon is more pronounced in the HBO state than in the NBO state. Further studies on CBF are needed to help identify divers potentially prone to harmful oxygen effects.

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