Anesthesiology
67:605, 1987

In Reply:—In response to the letter by Dr. Howard Zauder, I wholeheartedly agree that there probably exists a common relationship between lesions of the central nervous system, which includes near-drowning, and depolarizing muscle relaxants. The report was not meant to suggest that succinylcholine-induced hyperkalemia following near-drowning is a distinct pathophysiologic entity. It was reported to remind us that we should be cautious in using depolarizing muscle relaxants in all central nervous system disorders.

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(Accepted for publication June 23, 1987.)

Anesthesiology
67:605, 1987

The Inhibition of Stress-induced Beta-endorphin Secretion by Histamine Receptor Antagonists

To the Editor:—The article of Walsh *et al.*[1] presents data showing that the increased level of plasma beta-endorphin during preoperative stress is abolished by premedication with diazepam, diphenhydramine, or meperidine, while the plasma concentration of ACTH was affected neither by preoperative stress nor by the premedication drugs. The authors suggested that synthesis or release of beta-endorphin was inhibited and/or the stressful stimuli was suppressed by the drugs.

Recent work by our group, concerning the involvement of neuronal histamine in the mediation of stress-induced release of ACTH and beta-endorphin in rats (unpublished observations),[2] is in agreement with the results obtained by Walsh *et al.* We found that restraint stress, which is believed to have both a physical and an emotional component, increased the plasma levels of ACTH and beta-endorphin. Systemical administration of the H_1-receptor antagonists mepyramine and SKF-93944 abolished the beta-endorphin response to stress, but had no effect on the ACTH response. Since SKF-93944 does not cross the blood-brain barrier,[3] it appears that the beta-endorphin inhibiting effect of the H_1-antagonists is not due to unspecific central sedation, but is rather caused by specific activation of H_1-receptors.

In contrast to the effect of the H_1-antagonists, blockade of H_2-receptors by systemic infusion of cimetidine or ranitidine only inhibited the beta-endorphin response to stress 50%, whereas the ACTH response was almost totally blocked. The dissociation between the release of beta-endorphin and ACTH in response to stress, as described by Walsh *et al.*, is somewhat unexpected considering the common synthetic pathway for the two hormones which are derived from the same precursor molecule, proopiomelanocortin. However, this pattern of dissociated ACTH and beta-endorphin secretion was also present in our animal studies.

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(Accepted for publication June 25, 1987.)