A central cholinergic inhibition system as a basis for tonic immobility in chickens.

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AB Tested the hypothesis that tonic immobility (TI) is mediated by cholinergic systems that are brought into dominance by strong adrenergic stimulation. In 10 experiments with H&N White Leghorn chicks, a number of pharmacological agents, including scopolamine hydrobromide, dibenzylone, and d-amphetamine, were administered ip at various points in the hypothesized adrenergic-cholinergic chain to decrease or increase the amount of effectiveness of the released acetylcholine and the resulting duration of TI. Overall findings support the cholinergic mediation hypothesis for TI, although specific anatomical areas involved in the inhibitory response remain to be identified.