Idiopathic Chronic Hiccup (ICH): Phrenic Nerve Block Is Not the Way to Go

Letter to the Editor—We read with interest the case reports by Okuda et al. regarding the use of a nerve stimulator for phrenic nerve block in the treatment of hiccups. We agree with the authors (and the literature) that phrenic nerve block may not (and most probably will not) be effective and that it might (and most probably will) cause not only a reduction in vital capacity, but also dyspnea and hypoxia. However, we strongly object to their (undoubtedly) proposed opening statement that failure of such simple therapeutic attempts as stimulation of the pharynx, compression of the eyeballs, gastric lavage, and sedation or inhalation of carbon dioxide warrants such heroic trials of ‘last resort’ as phrenic nerve block.

During adult life, transient hiccups is a common (albeit irrelevant) occurrence, associated most often with gastric distention, sudden temperature changes, or emotion. The transient hiccupping either resolves spontaneously or responds to simple nonpharmacologic measures. Hundreds of these simple hiccup-terminating maneuvers have been described, and for some of them a physiologic explanation can be given. It seems that activation of the vagus nerve is therapeutic in cases of transient hiccupping, as opposed to vagal interruption, which potentiates such episodes.

The hiccup can, however, become a ‘fixed-action pattern’ and thus persist. Despite the finding that more than 100 medical conditions have been associated with hiccup, more often than not an organic cause will not be discovered. For this idiopathic chronic hiccup (ICH), the simple hiccup-terminating maneuvers are not effective, and pharmacologic therapy is needed.

Although virtually all available drugs have been used more or less successfully to suppress hiccups, more recently Baclofen, a gammahydroxybutyric acid (GABA) agonist used in the therapy of muscle spasticity, has been suggested as a hiccup therapy. Baclofen is believed to exert its antispastic effects by increasing the threshold for excitation (cell hyperpolarization), which depresses synaptic transmission in the spinal cord. Recently, two ICH studies reported similar results produced by a combination therapy using cispazide, omeprazole, and Baclofen (COB). Cispazide, omeprazole, and Baclofen produced at least significant hiccup relief in 60% of all patients with ICH treated.

In those cases in which the hiccup is not responding to Baclofen, Gabapentin, a GABA-derivative used in the therapy of seizures and spasticity, also can be effective. Our ongoing trials in which cispazide, omeprazole, and Baclofen therapy nonresponders are either switched to Gabapentin (COG) or receive Gabapentin in addition (COBG) seem extremely promising.

Although pharmacologic therapy will not always cure ICH, substantial relief is most often achievable. It is true that simple hiccup-terminating maneuvers such as the ones described in the case report, although very popular, are not likely to be effective for ICH. Their failure does not, however, warrant proceeding to potentially damaging ’last-resort’ maneuvers, such as phrenic nerve interruptions. The logical next step is the use of appropriate drugs in an appropriate dosage for an appropriate duration of time.

Georg Petroianu, Priv. Doz. Dr. med. Department of Pharmacology University of Heidelberg at Mannheim Maybach Street, 14–16 Mannheim, Germany

References


Fig. 1.

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Hypoxic Apnea, Epidural Anesthesia, and Infants

To the Editor.—In reviewing the recent report by Hogan et al.1 regarding hypoxic apnea in rabbits receiving epidural anesthesia, I was struck by the similarity of their report to a phenomenon seen in hypoxic newborn and premature infants: to wit, a brief hyperventilatory response followed by hypoventilation and apnea.2 In many ways, the newborn or premature infant is similar to the authors1 rabbit-with-epidural-anesthesia model. Obviously, the blood pressure of the newborn or premature infant is much lower than that in an older child or adult. At the same time, infants exhibit primarily parasympathetic tone; this is seen in their exaggerated bradycardic responses to laryngoscopy, anesthesia, and succinylcholine, and in the absence of hypertension after pharmacologic sympathectomy with spinal or epidural anesthesia. These similarities between the rabbit-with-epidural-anesthesia model and the newborn or premature infant led me to wonder whether there might be a common mechanism for hypoxic apnea and a role for blood pressure augmentation, adrenergic agonists, or vagolytics in the prevention or treatment of infant apnea.


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