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Case report

Termination of intractable hiccups with digital rectal massage

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Abstract. Odeh M, Bassan, H, Oliven A (Department of Internal Medicine B, Bnai Zion Medical Center and Technion Faculty of Medicine, Haifa, Israel). Termination of intractable hiccups with digital rectal massage. *Journal of Internal Medicine* 1990; **227**: 145–146.

A 60-year-old man with acute pancreatitis developed persistent hiccups after insertion of a nasogastric tube. Removal of the latter did not terminate the hiccups which had also been treated with different drugs, and several manoeuvres were attempted, but with no success. Digital rectal massage was then performed resulting in abrupt cessation of the hiccups. Recurrence of the hiccups occurred several hours later, and again, they were terminated immediately with digital rectal massage. No other recurrences were observed. This is the second reported case associating cessation of intractable hiccups with digital rectal massage. We suggest that this manoeuvre should be considered in cases of intractable hiccups before proceeding with pharmacological agents.

Keywords: digital rectal massage, intractable hiccups, nasogastric tube, pancreatitis.

Introduction

Hiccups are the result of intermittent clonic spasm of reflex origin, involving the diaphragm and accessory inspiratory muscles and terminated by abrupt glottic closure [1, 2]. Most people have at some time experienced hiccups, and although most bouts of it are short-lived and self-limiting, persistent hiccups (singultus), can be a serious and exhausting condition requiring medical attention. Hiccups may be a symptom of various conditions including metabolic, abdominal, thoracic and central nervous system diseases [2, 3], and although the exact mechanisms of action remain unknown, a wide variety of treatment modalities with varying success rates have been described [2, 4].

Digital rectal massage employed for the treatment of intractable hiccups has been reported previously only once by Fesmire [5]. We report on another case of intractable hiccups successfully terminated by the use of digital rectal massage.

Case report

A 60-year-old man was hospitalized for acute pancreatitis accompanied by epigastric pain, nausea and vomiting. He had no history of gallstones, peptic ulcer, alcohol intake or hyperlipidaemia. He denied cigarette smoking and the use of any prescription. Physical examination on presentation revealed an apparently healthy muscular man. Blood pressure was 140/80 mmHg, pulse 72 beats per min and temperature 37.5 °C. The lungs were clear to auscultation and cardiac examination was normal. Examination of the abdomen revealed moderate epigastric tenderness with no masses or hepatosplenomegaly. Laboratory findings were unremarkable except for high serum and urine amylase levels. The ECG demonstrated sinus rhythm with no abnormalities. The chest and abdominal X-ray films yielded normal results, and the abdominal ultrasonography demonstrated several stones in the gallbladder.

Insertion of a nasogastric tube on admission was not well tolerated and was accompanied by the development of hiccups. The nasogastric tube was taken out but the hiccups continued. Swallowing of a teaspoon of granulated sugar, stimulation of the posterior pharynx with a nasal catheter, Valsalva manoeuvre, carotid sinus massage and digital eyeball pressure were performed but with no success to terminate the hiccups. The patient was treated with different drugs, including metochlopramide, diazepam and haloperidol in therapeutic doses—all without improvement. After 2 d with intractable hiccups, rectal examination including digital rectal massage was performed, resulting in abrupt cessation of the hiccups. The patient remained free of this symptom for several hours and the hiccups recurred with the same previous intensity. Digital rectal massage was attempted again using a slow continuous circumferential motion and the hiccups were terminated again immediately. The patient remained free of hiccups for the next 5 d and was discharged with no residual symptoms.

Discussion

Intractable hiccups is an uncommon phenomenon probably mediated through the supraspinal brain stem centre with the afferent limb mediated by the vagus nerve, the phrenic nerve and the sympathetic chain arising from T6–T12; and the efferent limb by the phrenic nerve [1, 2]. Generally the hiccups spasm involves multiple groups of respiratory muscles bilaterally [2]. The reflex serves no known purpose and there is a strong male predominance [6].

A wide variety of reported aetiologies are recognized [2, 3, 7]. Treatment modalities are many and varied [4], often unsatisfactory and most papers dealing with treatment are unhelpful to the clinician seeking guidance for a plan of management.

In response to therapeutic agents, hiccups may diminish in frequency over hours or days, rather than stopping immediately. However, in our case and in the other previously reported, the intractable hiccups were terminated immediately with digital rectal massage. Digital rectal massage was also successful in terminating paroxysmal supraventricular tachycardia in a recent reported case after other vagotonic manoeuvres had failed [8].

The rectum is supplied with sympathetic and parasympathetic nerves carrying both motor and sensory fibres [9]. Sensory innervation of the rectum occurs through parasympathetic fibres that are very sensitive to pressure [10], and the digital rectal massage would lead to increased vagal tone and potential termination of hiccups. This manoeuvre is less dangerous than other therapeutic vagotonic manoeuvres, like carotid sinus massage, Valsalva manoeuvre and bilateral ocular pressure, and it succeeded when these manoeuvres failed. Digital rectal massage is easy to perform and may be preferable to other techniques. It should be considered in cases of intractable hiccups before proceeding with pharmacological agents.

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