Original Research Paper Medical Science

Persistent Hiccups Due to Reflux Disease

* Dr Amar Andrews F	Resident, Department of Physiology, Armed Forces Medical College Pune, * Corresponding author
Dr Deepanjan Dey	Associate Prof, Department of Physiology, Armed Forces Medical College Pune
Dr Binit kumar	Resident Department of Physiology Armed Forces Medical College Pune
Dr Yeshashree Rajaure Thapa	Resident Department of Physiology Armed Forces Medical College Pune

ABSTRACT

Hiccups are transient, benign physiological annoyance that affects almost everyone at some point of time. Hiccups result from wide variety of conditions. Most of the causes of hiccups originate in the digestive tract and the CNS. Hiccup is reported to represent atypical manifestation of gastroesophageal reflux disease (GERD).

We report a case of 33-year old male who presented with persistent hiccups, and 24hr pH- metry confirmed diagnosis of reflux disease

KEYWORDS : hiccups, gastroesophageal reflux, pH-metry

Introduction:

Hiccup refers to spasmodic, involuntary contraction of the inspiratory muscles, especially the diaphragm associated with glottis closure leading to peculiar sound associated with the condition (1). Hiccup is believed to be caused by irritation of hiccup reflex arc anywhere along its pathway, which consists of an afferent limb that includes the phrenic and vagus nerves, a center in the brainstem; and an efferent limb consisting mainly of the phrenic nerve (2). Hiccup is believed to represent atypical manifestation of gastroesophageal reflux disease (GERD) (3). Most attacks of hiccups are of short duration and resolve spontaneously. Though involuntary and self-limited, they can be an exhausting manifestation of a disease.

The aim of the present report was to describe a case of reflux disease where the presenting symptom was hiccups and diagnosis of GERD was supported by 24hr pH-metry.

Case:

A thirty three year-old male with history of recurrent, intermittent hiccups aggravated by food and water intake, and relieved partially by medication from past 2 years presented with incessant intractable hiccups and belching for past 3 months, unabated by medications. On admission his temp was 98.4° F, heart rate 84/min and blood pressure 132/86mmHg. Systemic examination was normal. Haematological and biochemical parameters were normal. Chest X-ray showed air-gap between cardiac shadow and dome of diaphragm, UGI endoscopy was normal. On Oesophageal manometry the basal lower oesophageal sphincter pressure were normal (median pressure of 11.1mmHg,), LES relaxed to swallows with median IRP of 3.1mmHg, large breaks of >5cm in length seen in >20% of swallows in 20mmHg isobaric contour as shown in figure 1.and 24hr pH-metry showed significant acid reflux (fig 2). Patient was started on i.v fluids and proton pump inhibitor (PPI).

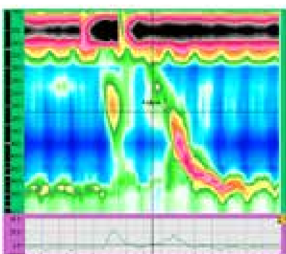

Fig 1: Manometric features of a swallow showing weak peristalsis with large defects.

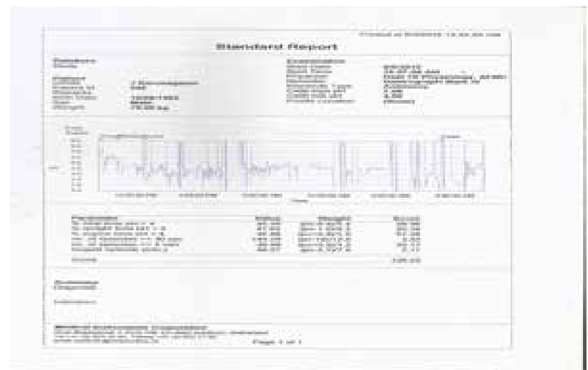

Fig 2. 24 -hour pH metry study showing significant acid reflux

Discussion:

Gastroesophageal reflux disease (GERD) is a common condition that occurs when stomach contents reflux into the oesophagus causing troublesome symptoms and /or complications (4). Though the most common presenting symptoms are heart burn and/or regurgitation, GERD is often associated with other atypical presentations. Hiccup represents one such atypical manifestation of GERD (5).

Hiccup is an involuntary activity, caused by involuntary contraction of diaphragm and closure of glottis. Hiccups are usually not associated with any disease, at times it can be debilitating. Numerous aetiologies have been thought to hiccups (6). Persistent or intractable hiccups results from serious underlying pathophysiological processes that include CNS lesions, toxic metabolic disorders, irritation of diaphragm or vagus anywhere along its pathway, drugs, post-operative and idiopathic of which digestive tract disorders and CNS disorders form the two most common causes of intractable hiccups(7, 8) . Gastrointestinal stimuli being the most common, cause reflex excitation of neurons responsible for hiccup. Fisher et al proposed the presence of receptors in the oesophagus which when excited, send impulses to CNS through vagus, thereby resulting in net excitation of the respiratory motor neurons and hiccup (9).

Michael Gluck and Charles Pope II reported a case where in a 50 year

old male presented with intractable hiccups for 1 yr. He was found to have gastroesophageal reflux and treated accordingly. They were able to reproduce hiccups on two occasions using the acid perfusion test during standard manometry procedure (10). Association between hiccup and GERD was reported by Marshall et al. in their study.

Our case presented with persistent hiccups and was evaluated for the same and treated accordingly.

In conclusion, hiccup represents an atypical symptom of reflux disease. If a patient turns to with hiccup, he/she must be evaluated for GERD and treated accordingly.

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