RESISTANT CYCLIC VOMITING SYNDROME SUCCESSFULLY RESPONDING TO CHLORPROMAZINE

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Summary: Cyclic vomiting syndrome (CVS) is a disorder characterized by recurrent, stereotypic episodes of nausea, vomiting, and other symptoms, separated by intervals of comparative wellness. These episodes carry on for hours or days. The patient is healthy between the episodes and has no clinical finding. For the treatment of the CVS, antiemetic, antimigraine and sedative medications were used. However, in some cases CVS treatment is very difficult. We report about a young patient, who did not respond to many agents, but was successfully treated with chlorpromazine

Key words: Cyclic vomiting syndrome; Chlorpromazine

CASE REPORT

Introduction

Cyclic vomiting syndrome is a stereotypical disease, which is characterized by recurrent episodic attacks of severe nausea and vomiting (1). Recurrent vomiting may be associated with abdominal migraine, abdominal epilepsy, migraine equivalents, duplication cysts and abdominal pain with gastrointestinal abnormalities which are recurrent like malrotation. Even if many organic diseases appear with cyclic and recurrent vomiting pattern, CVS has been observed primarily as a dysfunction of the central nervous system caused by migraine (2). The treatment is important because CVS may negatively affect patients’ quality of life.

Case

A 19-year-old female patient presented to our clinic with symptoms of nausea and vomiting, which occurred 10 to 12 times per year since 7 years, lasting 6–7 days. In her medical history she didn’t showed concomitant headache attacks. CVS was diagnosed by excluding other causes of recurrent vomiting. Her mother has been followed up with a diagnosis of migraine (1). The patient didn’t benefit from prophylactic therapy of amitriptyline (35 mg/day), topiramate (50 mg/day), flunarizine (10 mg/day), propranolol (100 mg/day), erythromycin (1 gr/day), cyproheptadine (10 mg/day) and from the acute therapy of ondansetrone (4 mg/day), dimenhydrinate (100 mg/day), metoclopramide (15 mg/day) in the vomiting phase. She was hydrated and 0.2 mg/kg chlorpromazine intravenous was administered 2 times a day in 1000 cc of saline. On the first day of treatment the patient’s symptoms began to diminish. After three days of treatment the patient recovered completely. Ultimately, a trial of chlorpromazine orally 0.25 mg/kg/day, was given during the vomiting phase. She took chlorpromazine along 3–4 days per month. After six months following, vomiting intervals and periods decreased. Also, symptoms were completely resolved at the end of the first year. In order to evaluate the side effects of chlorpromazine; regular blood tests, ECG and eye examinations were performed. Drug-related side effects were not observed.

Discussion

In literature it has been suggested that CVS is a manifestation of migraine (1). In general, it starts suddenly, repeats at regular intervals and it can take hours or days. Vomiting attacks show the stereotype of the typical feature of the disease. During attacks, symptoms may accompany to vomiting like nausea, abdominal pain, photophobia, fever, pallor, dehydration and social isolation. Between the attacks, the patient is completely healthy (2). Other authors report that it have been accused of hormonal dysfunction, mitochondrial gene mutations, gastrointestinal dysrhythmias, food allergy, autonomic dysfunction and ion channelopathies (3, 4). In etiology, infection, psychological stress and menstruation can initiate vomiting attacks (5). The typical symptoms of...
the patients point to CVS diagnosis, but for making the
diagnosis it is important to exclude other causes of recur-
rent vomiting by laboratory, radiographic, and endoscopic
testing (6).

Treatment of CVS is still not evidence based (1).
Specific management recommendations are based on the
individual phase of the cyclic vomiting cycle (7). Proph-
ylaxis of symptomatic vomiting episodes focusses on the
identification and avoidance of triggering factors as well
as prophylactic drugs. If a concomitant migraine exists,
CVS prophylactic treatment should include prophylaxis of
migraine during the inter-episodic phase. A daily dose of
amitriptyline, propranalol or cyproheptadine may decrease
the frequency or duration of episodes (9, 10). Also, drugs
such as pizotifen, carbamazepine, erythromycin, coenzyme
Q10 can be used for CVS prophylaxis (Table 1) (8–10).

As for that therapeutic purposes in vomiting phase is
the prevention of dehydration, renal failure, tetany, hemate-
mesis and inappropriate antidiuretic hormone release (1).

For this purpose 5% dextrose, ondansetron, lorazepam,
omeprazole can be used in vomiting phase (Table 1). Addi-
tionally, triggers of vomiting episodes or anxiety as chronic
infection, menstrual syndrome cases should be identified
and treated (9).

Chlorpromazine is a conventional antipsychotic drug.
The basic mechanism of chlorpromazine is the high affini-
yty and antagonism towards dopaminergic D2 receptors.
Its antiemetic feature is known, but only a few publications
report about its effectiveness in CVS (9). In chlorpromazine
treatment, it is important to follow side effects resulting
from the treatment.

In our patient, there were episodes of nausea and vom-
iting that did not respond to many treatment regimens. The
patient’s symptoms decreased with intravenous chlorproma-
ze in vomiting phase. Thus, we chose oral chlorpromazine
for the treatment. We observed, that chlorpromazine, which
was used in periods of vomiting, improved the patient fully.
Side effects were not observed during follow-up. We want
to emphasize with presentation of this case, that chlorprom-
azine could be effective in patients with resistant CVS.

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Tab. 1: Treatment of prophylactic and vomiting phase of CVS.

<table>
<thead>
<tr>
<th>Prophylaxis</th>
<th>Vomiting phase</th>
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<tbody>
<tr>
<td>Amitriptyline</td>
<td>Lorazepam (0.05–0.1 mg/kg/day) IV</td>
</tr>
<tr>
<td>Propranolol</td>
<td>Ondansetron (0.3–0.4 mg/kg) IV</td>
</tr>
<tr>
<td>Erythromycin (20 mg/kg/day)</td>
<td>Omeprazole (1 mg/kg/day) IV</td>
</tr>
<tr>
<td>Coenzyme Q10 (10 mg/kg/day)</td>
<td></td>
</tr>
<tr>
<td>Carbamazepine (5–10 mg/kg/day)</td>
<td>Chlorpromazine (0.15–0.3 mg/kg/day) IV</td>
</tr>
<tr>
<td>Cyproheptadine (0.25–0.5 mg/kg/day) (5 year or younger)</td>
<td>Difenhydramine (1.0–1.25 mg/kg/day) IV</td>
</tr>
<tr>
<td>Pizotifen (0.5–1.0 mg/day) (5 year or younger)</td>
<td>Sumatriptan Oral 25–50 mg, intranasal 10 mg, or subcutaneously 3–6 mg (Older than 18 year)</td>
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