When should prophylactic therapies be used, and what medications are tried?
As mentioned previously, prophylactic treatments are medications given on a daily basis to try to prevent episodes from coming on. Studies suggest that in patients with frequent episodes (every 1-2 months), prophylactic treatment can lessen the frequency and severity of episodes. Therefore, in patients having frequent episodes (i.e. every 1-2 months) prophylactic treatment should be considered. However, if episodes are infrequent (i.e. once a year), prophylactic therapy is probably unnecessary. The most common prophylactic medications include amitriptyline, cyproheptadine, and propranolol. In some patients with resistant disease, anticonvulsants (i.e. medicines usually used to treat seizures) may be used. These medications include topiramate, levetiracetam. While all these prophylactic medicines are generally safe, each has a different side effect profile, and so the benefits and risks of prophylactic therapy need to be reviewed with your physician.

Can dietary changes be helpful?
While there is no firm medical evidence to prove that they are helpful, some physicians have used the dietary supplements including L-carnitine, co-enzyme Q10, and Vitamin B-100 as additional therapies to treat CVS. Commonly-used dosages for the first two supplements can be found at www.cvsaonline.org.

What about stress?
In some patients, CVS may be triggered by either physical or psychological stress, most often happy excitement such as holidays or vacations. Physical stresses that can trigger episodes include infections such as colds and viruses. A subset of women may develop CVS or migraines around their periods. Psychological factors also play a role. Some patients will have episodes triggered by negative (unhappy) stressors, such as tests or term papers. Others will have episodes triggered by positive stressors (such as holidays and visits with relatives). However, many cannot identify a specific stressful event as a trigger for CVS. While the illness is not caused by stress, stress can make things worse, and CVS is a stressful illness. Therefore, in many patients treatments to promote relaxation (counseling, yoga, acupuncture) may help.

Do diet and supplements play a role?
We don’t know about the role of diet in CVS. However, some patients do benefit from special diets which involve the restriction of certain foods (cheeses, chocolate, legumes, wine and other foods). Because energy depletion can be a trigger for episodes, most doctors are recommending even pacing of meals and frequent healthy snacking. The avoidance of fasting is highly recommended.

Will I ever get better?
Fortunately, once properly diagnosed and treated, most patients improve. In addition, some small studies of children suggest that many children may “outgrow” their illness, most commonly during their pre-teen or teenage years.

How can I learn more?
Talk to your physician, to other patients, and also explore the website www.cvsaonline.org. If you are interested, join the Cyclic Vomiting Syndrome Association, which offers educational materials, conferences, and multiple opportunities for support coping with this illness.
What is cyclic vomiting syndrome?

If you’ve made your way to the CVSA website, you may suspect you/your child has cyclic vomiting syndrome (CVS). Cyclic vomiting syndrome is not a single disease, but rather a specific pattern of vomiting that can be seen in a number of disease states. There is no proven test to diagnose cyclic vomiting syndrome. Therefore, the correct diagnosis is made by having a doctor take a careful history, performing a careful physical examination, and conducting tests to exclude other diseases.

What features in the medical history suggest CVS?

Many different conditions cause recurrent vomiting. In most cases, CVS can be distinguished from other conditions causing vomiting by three main features: paroxysmal (sudden onset), stereotypical (similar episodes) with accompanying pallor and listlessness, and periods of wellness in between.

First, the vomiting in cyclic vomiting is paroxysmal (sudden onset). Most patients with CVS feel fairly well, until they get a sudden attack of nausea, which usually progresses to vomiting a little later. The nausea and vomiting often start in the early morning and can even wake the patient from sleep.

Second, the vomiting episodes are stereotypical. “Stereotypical episodes” means each vomiting attack resembles similar episodes they have had previously. Often, your most careful presentation with CVS is said to have “a stomach virus” (viral gastroenteritis). However, when patients develop recurrent bouts of vomiting lasting hours or days, without diarrhea, and are completely well in between, the doctor (or parent) should consider CVS.

What other conditions cause vomiting?

There is a long list of diseases and problems that cause vomiting. These include: gastroesophageal reflux (acid reflux), stomach infections or inflammation, food allergies, pancreas inflammation and urinary infections. However, most conditions that cause vomiting tend to either be self-limiting (i.e. they have a beginning and an end), or chronic (i.e.; people vomit a little bit every day or two). Having recurrent bouts of severe vomiting separated by well periods is very unusual, and should make a physician or family suspect the diagnosis of CVS.

What causes vomiting in a CVS pattern?

A number of medical studies suggest that in most patients, CVS is related to migraine. The sudden onset of attacks with spontaneous resolution is also seen in patients with migraine headaches. Most (but not all) children with CVS have a family history of migraine. As affected children get older, many will go on to develop migraine headaches. In addition, many of the treatments used to treat migraine headaches are also effective in treating CVS.

Do other conditions need to be excluded?

Because there is no definitive test to diagnose CVS, a number of other conditions may need to be excluded as causes of the disorder. These include anatomic abnormalities of the bowel such as malrotation. In children with malrotation, the intestines are abnormally positioned in the body from birth, and can twist on themselves. A second condition to be considered is uteropelvic junction obstruction, in which urinary flow out of the kidneys is blocked, leading to backup of urine into the kidney, which in turn leads to vomiting. At the present, research is taking place to study the effects of using cannabis for CVS. Very rarely, brain tumors or other lesions in the head can present with recurrent vomiting. Lastly, metabolic disease (hereditary enzyme deficiencies) can cause recurrent vomiting, particularly in infants and young children, because there is a missing enzyme in the patient leading to buildup of toxins in the blood and urine.

What testing should be performed if cyclic vomiting is suspected?

In general, the history will strongly suggest CVS. However, in many cases, a physician may need to perform further tests to exclude other conditions. These tests may include: an upper GI series (x-ray of the stomach to exclude malrotation), an abdominal ultrasound (ultrasound of kidneys and gallbladder to rule out pathology), and a CT scan or MRI of the head. In addition, during a CVS episode, blood tests and urine tests may need to be obtained to evaluate for other causes of the episode. These tests may include: anemia, infection, inflammation of the pancreas, and metabolic enzyme problems). In some patients, endoscopy (examination of the esophagus) and surgery (examination of the stomach with a scope) may be needed.

If I think my child or I has cyclic vomiting, what should I do?

The most important thing to do is to find a physician who can take a careful history and determine if the history is consistent with CVS. While some pediatricians are comfortable and have experience in making the diagnosis, very often a definitive diagnosis will require referral to a pediatric specialist, either a neurologist or gastroenterologist). After the history, examination, and testing, if your pediatrician feels that CVS is likely, they will discuss therapy with you.

What therapies are available?

Treatment for CVS is divided into two major types: abortive therapy and prophylactic therapy. Abortive therapy means giving treatments to stop the episode once it starts, and only giving that treatment during the sick, in order to prevent episodes from coming on.

What are the abortive therapies (therapies that might help DURING an episode)?

Once CVS episodes start, they can be very hard to stop. For many patients, the best treatment is supportive, and can include intravenous fluids with a high percentage of dextrose and a quiet room in a hospital. Anti-nausea medications, including ondansetron (Zofran), promethazine (Phenergan), and chlorpromazine (Thorazine) are sometimes used to reduce the feelings of nausea. Because patients may be anxious and just feel lousy during an attack, they may benefit from an anti-anxiety medication such as lorazepam (Ativan). Other patients may benefit from antimigraine treatments like sumatriptan (Imitrex). The combination of Thorazine and Benadryl is often used to sedate the person deeply enough to all rest and possibly break the cycle. After enough time passes (usually hours to days), most patients come out of the episode.

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