A Case of intractable hiccup ended badly.

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Abstract:

Background: Hiccup is the sudden onset of erratic diaphragmatic and intercostal muscle contraction and immediately followed by laryngeal closure (1). In most cases it is self-limited condition that subsides spontaneously without any clinical significance (1).Hiccups are persistent if they last more than 48 hours, and intractable if they last for more than a month (2).The self-limited hiccup is induced by the rapid stomach distension and irritation caused by overeating, eating too fast, ingesting spicy food, drinking carbonated drinks, aerophagia and sudden change in ingested food temperature (3).There are many potential causes of hiccups, most of which are gastrointestinal and involve vagal and phrenic nerve stimulation (2). Causes of nerve irritation include pharyngitis, laryngitis, tumors, or cysts of the neck that stimulate the recurrent laryngeal nerve. The phrenic nerve irritation occurs by mediastinal masses, Goiter and abnormalities of the diaphragm (4). Many Gastrointestinal disorders cause phrenic nerve irritation. These include gastric distention, gastritis, gastroesophageal reflux, diaphragmatic eventration, peptic ulcer disease, pancreatitis, pancreatic cancer, gastric carcinoma, abdominal abscesses, gallbladder disease, inflammatory bowel disease, hepatitis, aerophagia, esophageal distention, and esophagitis (5).Other causes include central nervous system disorders, metabolic disorders, psychogenic disorders, and drugs. Metabolic causes of hiccups include hypokalemia, hypocalcemia, hypocarbia (hyperventilation), and uremia (2).Moreover, 20% of parkinsonian (PD) patients had frequent hiccups compared to 3% of the controls. The Replacement therapy with dopamine agonists in PD patients is considered to induce certain episodes of hiccup; however, in others, hiccup may occur as the non-motor symptom of PD rather than as side effect of anti-PD treatment (6).The dopamine agonists share a

high affinity for D3 receptors which may be involved in the hiccup reflex arc.Hence, drugs that block dopaminergic neurotransmission including chlorpromazine and metoclopramide may be employed in treating hiccup episodes (7).

Case Report:

A 70-year-old man came to the clinic with a complaint of persistent hiccup of 2 months duration. His medical history was notable for ischemic heart disease (ISHD) and parkinson's disease for which he was treated with aspirin 150mg once daily, Effox 40 mg twice daily, Concor 10 mg daily. Patient did not receive any dopamine agonists. On review of systems the patient had constitutional symptoms in the form of fever, vomiting and malaise. The patient was an average built man in moderate distress. He was oriented to time, place and person. His temperature was 38 oC, blood pressure was 140/50 mm Hg, heart rate was 96 beats per minute, and respiratory rate was 32/min. When examined, he had normal head, ear, eye, neck with evident carotid pulsation, and normal throat findings. His extremities showed no edema, clubbing, or cyanosis, and pulses were symmetrical but collapsing (water-hammer). His abdomen was soft and non-tender. Abdominal palpation found no organomegally. Bowel sounds were present; An early diastolic murmur was heard in the third left intercostal space. Laboratory studies disclosed the following values: white cell count 15 x 103/μL hemoglobin 8.2 g/dL, hematocrit of 28.6%, and platelet count 230 x 103/μL. Blood urea nitrogen was 20 mg/dL, and creatinine was 1.5 mg/dL, serum amylase and lipase were normal. Findings on a chest radiograph were normal.

The patient was admitted to the hospital for further investigations, and as KFTs were normal, patient was put on treatment for gastritis and triple therapy started. Ceftriaxone 1 gm daily was prescribed. 5 days later, patient was not improving.

Chloropromazine 100mg twice daily was given with only minimal improvement. Fluoroscopy was done to evaluate movements of the diaphragm and was normal. PA U/S showed a splenic cyst measuring 6 x 9 cm. for further evaluation. Ct abdomen with contrast was done and showed a splenic abscess (figure 1). Percutanous drainage under ultrasonographic guidance was done, and aspirate was sent for culture and sensitivity testing. The course of antibiotic was resumed. After the abscess was drained, the patient improved with resolution of fever and hiccups. But the question was: what caused the splenic abscess? Discussion: Abscess of the spleen is a rather rare clinical entity with diverse etiologies. The most common is hematogenous spread originating from an infective focus elsewhere in the body (8).

Infective endocarditis, a condition associated with systemic embolization in 22-50% of cases, has a 10-20% incidence of associated splenic abscess (9). Other infective sources include typhoid, paratyphoid, malaria, urinary tract infection,

pneumonias, osteomyelitis, otitis, mastoiditis, and pelvic infections. Pancreatic, other retroperitoneal, and subphrenic abscesses, as well as diverticulitis, may contiguously involve the spleen. Splenic trauma is another well-recognized etiologic factor (10).

Other, less common causes of splenic abscesses include acquired immune deficiency syndrome (AIDS) and haematological malignancies. Splenic infarction is more common. It is estimated that about five percent of patients with splenic infarction will develop splenic abscess due to bacteremic seeding of an infracted splenic zone (11).

Figure 1: CT abdomen with contrast arrow indicate splenic abscess

As splenic abscess is associated with high morbidity and mortality rates, early recognition of the symptoms and prompt treatment are essential for a favorable outcome. The symptoms and clinical signs include: nausea, vomiting, hiccups, back-, left flank- or left upper quadrant pain and unexplained abdominal distension. On chest X-ray a left sided pleural effusion or left lower lobe infiltrate may be present. However, up to 90 percent of patients with splenic abscess have no localized findings and persistent or recurrent fever and sepsis, in spite of adequate antimicrobial treatment, are the most common clinical presentation of splenic abscess (11). The differential diagnosis of such lesions includes hydatid cyst, epidermoid cyst, pseudocyst, large solitary hematoma, intrasplenic pancreatic pseudocyst, and cystic neoplasm of the spleen (12). Diagnosis:

An echocardiogram was done and 2 large vegetations attached to the mitral valve were noticed, severe aortic regurgitation and EF of 50 %. Patient was diagnosed as possible infective endocarditis, and antibiotic therapy (vancomycin and gentamicin) was started. 3 sets of blood culture were drawn from the patient, but they were negative due to the administration of antibiotic on the first day of hospital admission. The planned surgical management was Aortic valve replacement after splenic drainage because of the risk of secondary valve infection. Prognosis: The prognosis of infective endocarditis largely depends on whether or not complications develop. The overall mortality rate has remained stable at 14.5% (13). Increased mortality rates are associated with increased age (14), infection involving the aortic valve, development of congestive heart failure, central nervous system (CNS) complications, and underlying disease such as diabetes mellitus. Catastrophic neurological events of all types due to IE are highly predictive of morbidity and mortality (15).

Our patient developed acute renal impairment along the course of

antibiotic therapy that was managed by 3 sessions of heamodialysis. Acute heart failure presented by pulmonary edema complicated the clinical course of the patient and he was admitted to ICU. Dobutamine infusion and diuresis by Furosemide were initiated. The patient was mechanically ventilated and despite extensive resuscitation measures the patient suffered a brady asystole arrest and was not revived.

Conclusion:

Infective endocarditis is a life-threatening disease. Unfortunately, due to the wide variety of clinical presentations its diagnosis is often delayed. Splenic abscess is a possible complication of left-sided infective endocarditis. Vancomycin and aminoglycosides are commonly prescribed for treating infective endocarditis and are associated with increased risk of acute kidney injury in elderly.

Prolonged hiccups can be debilitating and may be a sign of serious underlying disease. Thus, when patients present with hiccups, it is important to evaluate for potentially serious underlying causes.

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3. Wilcox SK, Garry A, and Johnson MJ. Novel use of amantadine: to treat hiccups. J Figure 2: cardiac pulmonary edema: perihilar consolidations (blue arrow) and increased width of the vascular pedicle (red arrow).Pain Symptom Manage. 2009; 38: 460-465.
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