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Superior mesenteric artery syndrome in an adolescent tetraplegic patient:a Case report

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Introduction

Superior mesenteric artery (SMA) syndrome is a rare cause of duodenal obstruction caused by intermittent or sustained compression of the duodenum between the aorta and SMA. Prevalence is rare, ranging from 0.1 to 0.3%. Clinically, it can occur in situations that cause hypermetabolism such as multiple trauma and burns. We report a case of an adolescent patient with acute SMA syndrome after traumatic cervical spine injury.

Case report

The 13th of May, 2018, a 14-year-old girl was diagnosed with C5, 6 dislocation fracture due to a car accident. She was C4 ASIA Impairment Scale grade A. On the day of admission, neurosurgeons underwent C4-7 posterior interbody fusion. On the first day after surgery, rehabilitation was initiated under the direction of the Rehabilitation Department. After 9 days of operation, we changed mechanical ventilator to home ventilator and initiated ventilator weaning. After admission, the patient was feeding through the nasogastric tube. However, from the 10th day after admission, she complained abdominal pain and abdominal distension after feeding through the nasogastric tube, and significant dilatation was observed on the abdominal x-ray performed (Fig. 1.). When abdominal pain was present, drainage was performed through the nasogastric tube, and a large amount of feeding or even bile stained fluid was drained. Abdominal computed tomography showed a transitional zone at the junction of the second portion of the duodenal, which confirmed the possibility of SMA syndrome (Fig. 2.). Therefore, the patient increased the dietary dose by taking left decubitus position before and during meals. In addition to increasing the dietary dose through the nasogastric tube, parenteral nutrition(PN) was also performed. After one week of PN and nasogastric tube, she regained her weight. Even drainage of stained fluid with nasogastric tube, abdominal pain, and abdominal distension were improved. In Conclusion, the symptoms of SMA syndrome were improved by conservative Method without surgical intervantion and general hospitalization were possible soon.

Discussion

In the initial spinal shock, loss of reflexes, decreased bowel motility, and ileus are common. In addition, in the acute phase of multiple trauma, the basal metabolic rate increases and weight is easily reduced. It is disadvantageous to the bowel movement because it does not maintain proper sitting posture when feeding. In the intensive care unit, proper communication is often difficult due to sedation and endotracheal intubation. If the patient is young and slender, the symptoms of abdominal distension

and vomiting should be carefully observed and evaluated to consider the possibility of SMA syndrome.

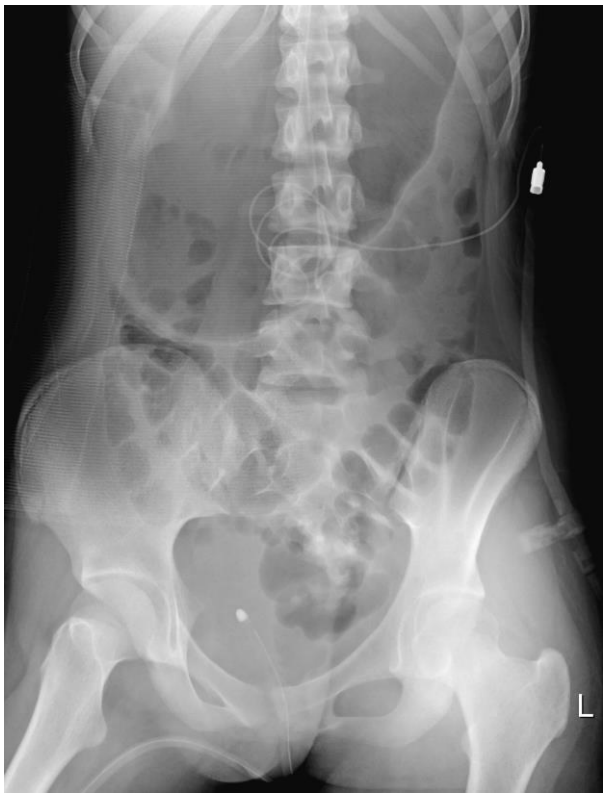

fig1. Abdominal X-ray demonstrating markedly distended stomach

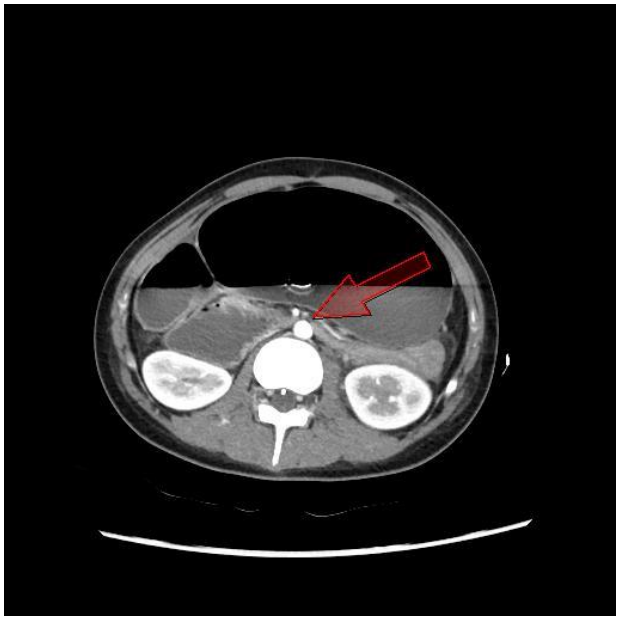
fig2. Contrast CT of the abdomen showing the distance between aorta and SMA (red arrow). Also seen are a dilated stomach and duodenum.