Chilaiditi syndrome mimicking pneumoperitoneum

Ta-Wei Wang, MD[1] and Yu-Jang Su, MD[2,3,4,5,*]

[1] Department of Emergency Medicine, Tao-Yuan General Hospital, Taoyuan City, Taiwan; [2] Department of Emergency Medicine, Toxicology Division, MacKay Memorial Hospital, No. 92, Sec 2, North Chung Shan Rd, Taipei City, Taiwan; [3] Department of Medicine, Mackay Medical College, Taipei City, Taiwan; [4] Mackay Junior College of Medicine, Nursing, and Management, Taipei City, Taiwan; [5] Yuanpei University of Medical Technology, HsinChu, Taiwan *(E-mail: yjsu.5885@mmh.org.tw).

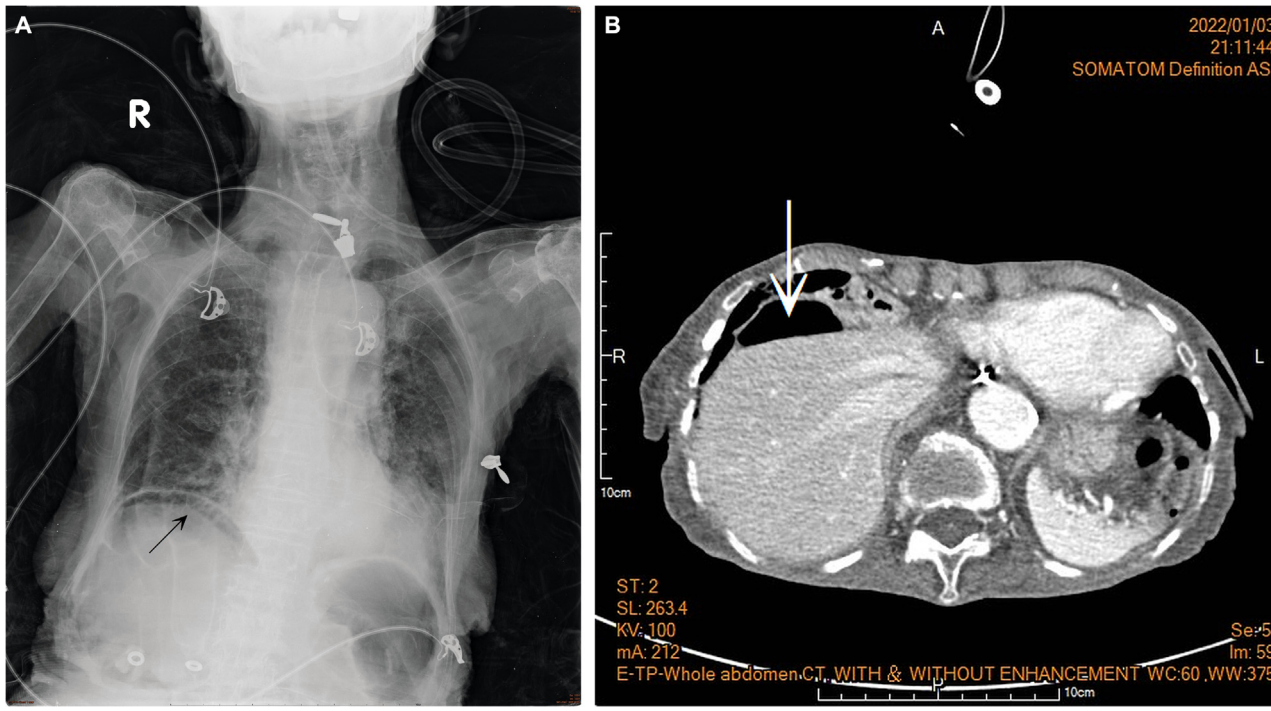

FIG. 1.

CASE PRESENTATION

A 96-year-old woman with dementia and total dependency on activities of daily living (ADL) presented to the emergency department (ED) due to tachypnea and a large amount of sputum production. Two days before her presentation to the ED, she experienced a choking episode. She also had poor appetite and constipation recently. Upon physical examination, the patient had a body temperature of 36.5 °C, pulse of 118 beats per minute, respiratory rate of 20 breaths per minute, blood pressure of 162/102 mmHg, and low oxygen saturation (SpO2: 89% without oxygen support). Crackle was heard over bilateral lung fields. Her abdomen was soft and without tenderness, but tympanic on percussion. Laboratory data was as follows: white blood cell count 7900 cells/micro-L with 92.2% segmented neutrophils; glucose, 187 mg/dL; amylase, 57 U/L; procalcitonin, 0.24 ng/ml; and lactate level, 31.4 mg/dL. Chest radiograph showed bilateral ground-glass opacity in the bilateral lungs and a radiolucent area over the right subphrenic space (Fig. 1A). Right subphrenic radiolucency on the chest radiograph was noted. Computed tomography of the abdomen was performed and revealed interposed colonic loops between the diaphragm and the liver without intra-abdominal free air (Fig. 1B). The image indicated Chilaiditi syndrome. Due to the presentation of poor appetite and ileus, conservative treatment with the prokinetic agent was given for colonic ileus. Furthermore, the patient was admitted to the medical ward for further treatment for aspiration pneumonia. Unfortunately, she died of pneumonic desaturation after the decision of do not resuscitate by her family 34 h later. The major cause of fatality was septic desaturation rather than Chilaiditi syndrome.

An image presented by Saha et al. in 2020 describes Chilaiditi syndrome secondary to bilateral diaphragmatic palsy.[1] Here we presented a transient appearance of Chilaiditi syndrome with obvious subphrenic lucency.

Chilaiditi sign has a 0.025–0.28% incidence worldwide with a male-to-female ratio of 4:1.[2] Chilaiditi sign was occasionally seen in clinical practice, and it needs to prudently differentiate from pneumoperitoneum by the presentation of physical status and laboratory data. Once this sign was associated with gastrointestinal symptoms, this entity was known as Chilaiditi syndrome. Generally, the patients are asymptomatic, but they can present with abdominal pain, nausea, vomiting, and constipation. Seldomly, due to diaphragmatic irritation, non-gastrointestinal symptoms, such as right shoulder pain and cough, can present.[3] In most circumstances, conservative treatment is adequate, including nasogastric tube decompression, intravenous fluids, and laxatives administration. However, surgical intervention is indicated if the patient does not respond to initial conservative management or complications developed such as cecal volvulus, gangrene, or perforation.[3] Bowel decompression and follow-up radiograph can confirm the success of the therapy by observing the disappearance of subdiaphragmatic air and the repositioning of the distended intestine back to the normal position beneath the liver. Cecopexy may be a way to eliminate the possibility of recurrence in an uncomplicated cecal volvulus unless an ischemic bowel emergency or perforation necessitates surgical resection.

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DECLARATION OF COMPETING INTEREST

None.

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