Image

DOI: 10.6966/EDMJ.202403_11(1).0006

Gastric Obstruction Caused by Left Giant Hydronephrosis

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Giant hydronephrosis (GH) is defined as the presence of more than 1,000 mL of fluid in the renal collecting system. Patients typically remain asymptomatic during the early disease course. However, GH may progress to cause compression to surrounding organs or infection. Here, we report a rare case of the mechanical obstruction of the stomach caused by left GH. Percutaneous nephrostomy is usually required to manage the acute problems of GH. If the residual renal function of the affected kidney is poor, nephrectomy is considered to prevent further complications.

Key words: giant hydronephrosis, gastric obstruction, nephrostomy

Case Report

A 77-year-old man presented to our emergency department with a 2-month history of postprandial vomiting and body weight loss. The vomiting occurred within 30 minutes after meals. He reported having left ureteropelvic junction stone with hydronephrosis 4 years prior. However, he did not seek further medical treatment because of the absence of discomfort. At the emergency department, physical examination revealed the presence of a palpable mass in the left upper abdomen. Computed tomography demonstrated marked enlarged left giant hydronephrosis (GH) when compared with images obtained 4 years prior. The gastric fundus was confined to the small space bounded by the spleen and the left GH (Fig. 1). Upper gastrointestinal series revealed a large hazy mass in the left abdomen. The small capacity of the gastric fundus was associated with gastroesophageal reflux (Fig. 2). Partial gastric obstruction by the left GH was suspected, and percutaneous nephrostomy was performed. After the procedure, postprandial vomiting considerably improved after drainage. The patient underwent ureteroscopic lithotripsy 1 month later, and symptoms did not recur. Follow-up computed tomography revealed the resolution of the compression of the gastric fundus (Fig. 3).

Most reported cases of GH occurred in childhood or infancy and had ureteropelvic junction stricture as the origin. GH in adults is uncommon, and other etiologies such as nephrolithiasis and cancer were reported.[1] Possible gastrointestinal manifestations such

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Received: February 2, 2022 Accepted: March 31, 2022

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as abdominal fullness, flank tenderness, ileus, and obstructive jaundice were reported. Among these complications, mechanical obstruction of the stomach is rare.[2] The left kidney is situated anteriorly with respect to the pancreatic tail, splenic vessel, and posterior gastric wall. Our case had left GH, which caused mechanical gastric obstruction upon anterior and upward expansion. Urgent percutaneous nephrostomy is usually indicated when left GH is accompanied by infection or mechanical obstruction to surrounding organs. Nephrectomy is the procedure of choice for a poorly functioning kidney, indicated by the thinning of the renal parenchyma (< 5 mm) or less than 20% of total glomerular filtration on a split renal scan.[3]

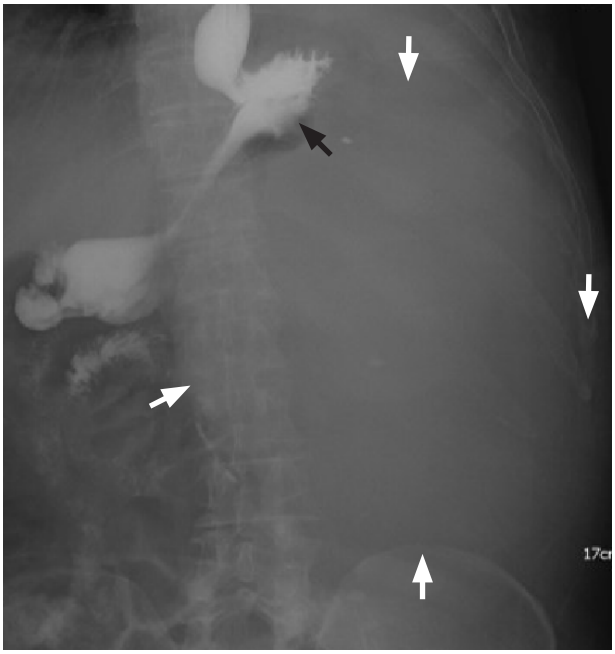

Fig. 2 Upper gastrointestinal series demonstrated a large hazy mass in the left abdomen (white arrow). The small capacity of the gastric fundus was associated with obvious gastroesophageal reflux (black arrow).

Fig. 1 Computed tomography revealed the presence of left giant hydronephrosis (20.5 cm × 15.7 cm × 19.8 cm) caused by a ureteropelvic junction stone. The gastric fundus was confined to the small space bounded by the spleen and the left giant hydronephrosis (arrow).

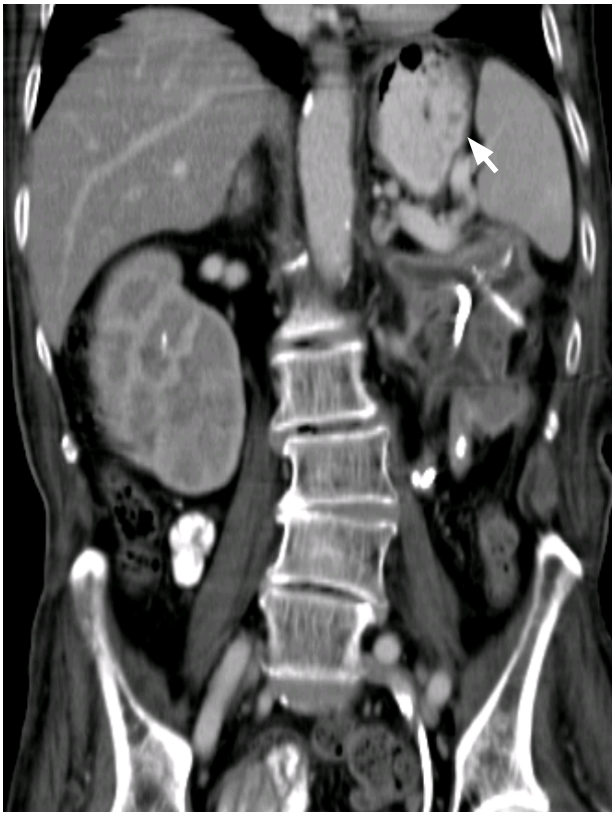

Fig. 3 Follow-up computed tomography confirmed that the compression of the stomach caused by left giant hydronephrosis (arrow) resolved after drainage.

Author Contributions

Ching-Yang Chen and Hung-Yu Lin summarized patient's clinical findings and problems. Ching-Yang Chen wrote the draft manuscript. I-Chang Lin interpreted image findings of the patient. Chi-Ming Tai and Ming-Hung Hsu reviewed and edited the manuscript. All authors have given approval to the final version of the manuscript.

Funding

This research received no external funding.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest

The authors declare no conflict of interest.

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