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LETTER TO THE EDITOR

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Troubleshooting the cause to post-operative pain following gastric fundoplication

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To the editor,

A 45-year-old female patient was taken up for gastric fundoplication. An epidural catheter was inserted at T 10-11 interspace, and general anesthesia was administered. The intraoperative period was uneventful. A 14-Fr nasogastric tube which was inserted after intubation was left in situ after the procedure. Post-operative day 0 and day 1 went uneventful. The patient was pain-free with an epidural top-up of 8 ml of 0.125% bupivacaine hydrochloride 6th hourly and intravenous paracetamol 1 gm, 8th hourly. The nasogastric tube was removed by the surgeons at 5:00 pm on POD 1. By 5:00 am the next day, the patient complained of abdominal pain despite receiving round-the-clock epidural top-ups which became intolerable by 8:00 am and the acute pain services were alerted. The pain did not subside even with a supplemental epidural top up of 10 ml of 0.25% bupivacaine hydrochloride and parenteral analgesics. To rule out any migration of the epidural catheter, we went ahead to fluoroscopically confirm the position of the epidural catheter using contrast (3 ml of Iohexol 240 mg/ml) through the catheter (Hermanides et al. 2012). The Fluoroscopic study revealed a tram-track spread of contrast with spillage of the same through the intervertebral foramen confirming the catheter to be in the epidural space (Fig. 1A). Incidentally, massive gastric distension was observed although clinically a severely distended abdomen was not evident (Fig. 1A). The patient had immediate relief after reinsertion of a nasogastric tube and deflation of the stomach (Fig. 1B).

"Gas-bloat" can occur due to the obstruction of gas blowing into the esophagus following Nissen's fundoplication either due to surgically altered physiology of the gastroesophageal junction or surgical injury of the vagus nerve (Richter 2013). "Gas-bloat" syndrome was not considered in this patient as it was the second post-operative day, and the abdominal distention was also not clinically evident. The distension, if not treated timely, can even result in gastric necrosis (Salinas et al. 2014). The clinical situation further emphasizes that the severe visceral pain resulting from distension of a hollow viscera cannot be effectively mitigated with epidural analgesia. Clinching the diagnosis is the key for providing a simple treatment for a severe discomfort caused by gastric distension.

The authors certify that they have obtained appropriate patient consent to report the images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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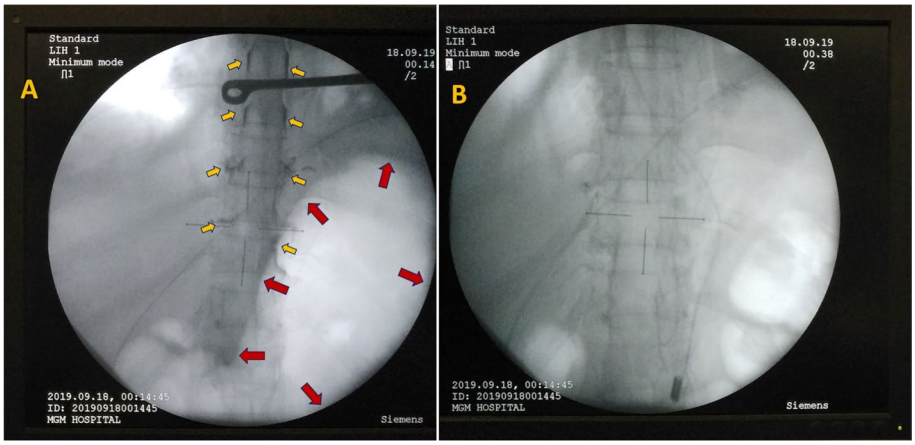

Fig. 1 **A** The yellow arrows indicate tram-track spread of contrast with spillage through the intervertebral foramen confirming epidural placement of the catheter. The red arrows indicate the massively distended stomach. In panel **B**, the stomach is seen deflated after insertion of the nasogastric tube

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Consent for publication
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Competing interests
The authors have no competing interests to declare.

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