Gastric perforation following nasogastric tube insertion: a rare complication of a very common procedure

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BACKGROUND
Nasogastric tube (NGT) insertion is a very common procedure. Gastric perforation following NGT insertion is a very rare but severe complication. We present here such a case and a review of the literature.

METHODS
We report the case of a 71 years old patient who underwent open spleno-pancreatectomy for a neuro-endocrine cancer of the pancreas with additional Intraductal Papillary Mucinous Neoplasm lesions. On the first postoperative day the patient presented with an ileus needing NGT-insertion. 3 days later the patient complained about pain in the left shoulder and hiccup and subdiaphragmatic abscess was suspected. CT-scan demonstrated gastric perforation with a perigastric fluid-air collection and the tip of the NGT in it (FIGURE 1). An immediately performed gastroscopy showed a small perforation in the middle of a complete normal gastric mucosa (FIGURE 2-3). The perforation site was closed by endoscopic clips and the collection drained by percutaneous pigtail drain placement. Due to the persistence of contrast extravasation from the stomach visualized by CT-scan 2 days later, the endoscopic procedure had to be repeated. Following that complete uneventful evolution with discharge home of the patient 21 days after the pancreas operation.

RESULTS
In the literature, a total of 12 cases of gastric perforation following NGT insertion have been reported. Potential risk factors (severe gastritis, gastric ulceration, gastric necrosis, gastric cancer, gastric bypass operation, preterm or low birth weight children as well as chronic steroid use) were identified in 9 cases. In one case, the patient was known for a fibromuscular dysplasia, which could have also been a risk factor. In one publication potential risk factors have not been mentioned and in the last case; similar to our case, no risk factors could be identified. The treatment consisted mostly in laparotomy with direct suture of the perforation.

DISCUSSION
Gastric perforation following NGT insertion is a rare but severe complication. It is well associated with the above mentioned risk factors. However, perforation is also possible without any risk factors. In order to prevent further complications, rapid diagnosis and treatment are essential. In the absence of generalized peritonitis, endoscopic clip closure of the perforation together with percutaneous drainage of the collection seems to be a good alternative to surgery.