Herniation through gastrostomy site: Case report

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INTRODUCTION: Herniation through gastrostomy site is an extremely rare complication of percutaneous endoscopic gastrostomy (PEG). We present two unusual cases of gastrostomy site herniation, the surgical management thereof, and a corresponding review of the literature.

CASE PRESENTATION: The first patient is a 65 year old Caucasian male who complained of epigastric pain and a bulge at his previous gastrostomy tube incision site three weeks after its removal. Initial exam revealed a hernia measuring approximately 10 cm which was later repaired by laparoscopic surgery with a composite mesh.

The second case is a 66 year old obese Caucasian male who complained of continued pain in the midepigastrium through his gastrostomy site 5 months after removal of his PEG tube. On physical exam he was found to have a hernia of 6 cm in the midepigastrium. His hernia was later repaired by open surgery with a composite mesh.

Both patients recovered uneventfully postoperatively.

CONCLUSION: Herniation through gastrostomy site is a possible complication of PEG tube and clinicians should consider this possibility in patients with ongoing leakage, bulge or pain at the gastrostomy site. This entity can be safely corrected via laparoscopic or open techniques.

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2210-2612/© 2016 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).
enteral feeding, and for that purpose he received a percutaneous endoscopic gastrostomy. Subsequently he recovered well and had the tube removed by simple traction in the office. Five months later he complained of continued pain in the midepigastrium region around his gastrostomy-stoma scar. On physical exam he was found to have a hernia of $6$ cm in the midepigastrium. He was taken to the operating room and his hernia was repaired by open surgery with a composite mesh.

Both patients had non-complicated reducible hernias at presentation and no extra imaging or specific diagnostic modalities were required. Postoperatively both patients recovered uneventfully.

3. Methods

A PubMed search of the literature of gastrostomy site herniation was conducted. Only four results were found.

4. Results

| Author        | Date | Diagnosis                                      | Removal Method | Intervention                                      | Outcome                                      |
|---------------|------|------------------------------------------------|----------------|--------------------------------------------------|----------------------------------------------|
| Chuang [1]    | 2003 | Leakage from around PEG tube, bulge with coughing | Traction       | Removal of PEG tube via traction method, plan for surgical intervention | Pneumonia, Respiratory Failure, and Death before surgery |
| Boldo-Roda [2]| 2005 | Leakage from around PEG tube, bulge with physical activity | Traction       | N/A                                              | Unk                                           |
| Kaplan [3]    | 2006 | Leakage from around PEG tube, bulge with physical activity | Traction       | Referral for surgical intervention               | Unk                                           |
| Ozutemiz [4]  | 2007 | Bulging                                       | Traction       | N/A                                              | Unk                                           |

5. Discussion

PEG site herniation has been described previously but without description of operative intervention received. With the increasing numbers of PEG tubes being placed every year, it is expected that complications like these will gradually increase. Discussion of preventing this complication was presented by Boldo-Roda et al. [2] and included avoidance of placement of PEG tube through linea alba, as this is an area of potential weakness; and possibly using cut and push technique rather than traction. It is possible that vigorous traction during removal may create a more permanent cavity than expected. However cut and push technique carries its own innate risks and clinicians should keep this in mind when deciding on the removal technique of choice.

6. Conclusion

While gastrostomy site hernia is an exceedingly rare complication with only four other cases reported in the literature, it is likely, given the number of gastrostomy tubes placed per year, that it is simply underreported. Clinicians should stay vigilant when performing physical exams or additional workup in patients with ongoing leakage, bulge or pain at the gastrostomy site; as this is potentially a surgically correctable entity, and can be safely managed via laparoscopic or open techniques.

Conflicts of interest

None.

Source of funding

None.

Ethical approval

There was no ethical approval required for this case.

Consent

Written informed consent was obtained from the patients for publication of these two case reports and accompanying images. A copy of the written consents is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Fernando Navarro: study concept and design.
Catherine Loflin: writing the paper, data collection and data analysis.
Paul Diegidio: writing the paper, data collection and data analysis.
Abdelaziz Atwez: writing the paper and proofreading.
Jeremy Reeves: data collection.

Guarantor

Fernando Navarro.

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