August 05, 2015

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 20547-Revised manuscript.doc).

Title: A terminal ileum gangrene secondary to a type IV paraesophageal hernia

Author: Ching Tsai Hsu, Po Jen Hsiao, Chih Chien Chiu, Jenq Shyong Chan, Yee Fung Lin, Yuan Hung Lo, Chia Jen Hsiao

Name of Journal: *World Journal of Gastroenterology*

ESPS Manuscript NO: 20547

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated

2 Revision has been made according to the suggestions of the reviewer

Reviewer 00503955

Comment: Authors should consider to add the most recent case report on this topic (Mahris M, Int J surg Case Rep 2015) to the literature review.

Response: Thank you for this important comment. We have add the case report to our manuscript.

Reference: Makri MC, Moris D, Yettimis E, Varsamidakis N. Type IV paraesophageal hernia as a cause of ileus : Report of a case. int j surg case Rep 2015; 6: 43-45 [PMID: 25506851 DOI: 10.1016/j.ijscr.2014.10.090]

Reviewer 02550474

Comment: This is a original topic to be treated. I think some minor polishing in the grammar should be done. But it is an acceptable work. I recommend this article to be publishes in the journal.

Response: Thank you for this positive comment. We have present the manuscript to the English language editing company and provide English editing certificate.

Reviewer 00041858

(1) **Comment:** It is not true that only 4 such cases have been published. The manuscript will greatly benefit from a thorough review of the subject's published literature.

Response: Thank you for this important comment. After thorough review of the subject's published literature, we have add one case report to our manuscript.

Reference: Makri MC, Moris D, Yettimis E, Varsamidakis N. Type IV paraesophageal hernia as a cause of ileus : Report of a case. int j surg case Rep 2015; 6: 43-45 [PMID: 25506851 DOI: 10.1016/j.ijscr.2014.10.090]

(2) **Comment:** The authors must include a paragraph on laparoscopic vs. open treatment of paraesophageal hernia, with focus on abdominal emergencies. Last but not least, the manuscript will be improved by a paragraph on the published repair methods, and their advantages, disadvantages, and recurrence rate.

Response: Thank you for this constructive comment. The following paragraphs have now been inserted as part of our manuscript:

Acute incarceration of PEH is a surgical emergency presenting with sudden chest pain, abdominal pain, or dyspnea. This development can be so rapid that the patient can present on admission with respiratory failure or systemic sepsis, as in the case of our patient. This can be due to strangulation, necrosis, or perforation of the abdominal viscera, and can lead to abdominal emergencies. Options for performing a PEH repair include the laparoscopic approach, open laparotomy, and open thoracotomy. Traditionally, acute incarceration of PEH has been treated with open surgery, through either the abdomen or the chest, and has been accompanied by high rates of morbidity and mortality, especially among older patients[11]. However, there are no clear guidelines for emergency treatment of PEH by

laparoscopic or open intervention. One meta-analysis study that included 20 patients suggested that emergency open surgery should be indicated when a patient presents with clear clinical evidence of acute ischemia, obstruction, or perforation[12]. Another meta-analysis of 64 patients suggested that laparoscopic repair should be attempted whenever possible, even in emergency settings, but recognized that conversion to open repair may be required if ischemia or perforation is identified[11]. Based upon these observations, the presence of clinical evidence of ischemia, obstruction, or perforation can determine whether to perform a PEH repair by laparoscopy or by an open approach in abdominal emergency cases. Emergency laparoscopic repair of PEH is safe and feasible in selected patients, and an emergency open repair may be required to manage the suspected ischemia and necrosis of the herniated viscus.

The optimal operative approach, whether laparoscopic or open, has been debated extensively[13]. The benefits of laparoscopic PEH repair include low morbidity, short hospital stay, and rapid recovery; these are crucial aspects for elderly patients[12]. However, some published studies have reported a high hernia recurrence rate after laparoscopic PEH repair[14]. A meta-analysis of 13 retrospective studies including 965 patients who underwent laparoscopic repair reported an overall hernia recurrence rate of 10.2% (range, 3–33%)[15]. In fact, the true recurrence rate was 25.5% when a video barium esophagram was used to assess the repair[15]. Additionally, the laparoscopic approach has a steep learning curve and requires advanced laparoscopic experience to perform safely and effectively. Other PEH repair methods include thoracotomy or laparotomy. Laparotomy still plays an important role in an emergency context and has a low recurrence rate, ranging from 2.5% to 13%[16]. In contrast to laparoscopy, it is characterized by slower recovery, higher incidence of wound infections, poorer mediastinal visualization, and more challenging transhiatal dissection[16]. Transthoracic repair can provide a better view of the herniated structures, easier sac dissection and resection, and better mobilization of the esophagus[17]. Disadvantages of a thoracotomy include incisional discomfort, pulmonary complications, prolonged hospital stay, as well as difficulty assessing the intra-abdominal organs. A retrospective study of 240 patients undergoing primary

transthoracic repair reported a 10% anatomic recurrence rate[13]. Hence, surgeons should carefully consider the risk of complications and the possible reduction in recurrence rates before selecting the best intervention method.

3 References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Gastroenterology*.

Sincerely yours,

Chia Jen Hsiao, MD,
Division of Gastroenterology, Department of Internal Medicine,
Taoyuan Armed Forces General Hospital, No.168, Jhongsing Road, Longtan Township, Taoyuan county, 32551, Taiwan, Republic of china.
E-mail: sjrvincent@gmail.com