Japanese Journal of Radiology (2019) 37:860–861
https://doi.org/10.1007/s11604-019-00879-3

LETTER TO THE EDITOR

Computed tomography diagnosis of transomental hernia

Akitoshi Inoue[1] · **Akira Furukawa**[2]

Received: 29 August 2019 / Accepted: 1 September 2019 / Published online: 21 September 2019

Recently, computed tomography (CT) has been greatly helpful in the diagnosis of small bowel obstruction (SBO) to preoperatively reveal the cause, including extrinsic lesion such as adhesion, intrinsic lesion, intraluminal lesion, internal or external hernia, volvulus, and intussusception [1]. However, the diagnosis of transomental hernia is sometimes difficult. We are pleased to read the interesting article entitled "Displacement of the transverse colon is a highly specific computed tomography finding for the preoperative diagnosis of a transomental hernia" by Ito et al. in the Japanese Journal of Radiology [2]. This study demonstrated the accuracy in the diagnosis of transomental hernia using the unique quantitative evaluation method, proportion of transverse colon loops posterior to dilated intestinal loops (PTPI). However, we would like to point out several concerns.

First, the distinction between the ascending colon and transverse colon, and the transverse colon and descending colon could be sometimes difficult in CT images. The authors only counted dilated small bowels anterior to the transverse colon when PTPI was calculated. In cases of internal hernias, herniated loops may not be dilated depending on the degree of obstruction. We would like to request the authors to explain these concerns in the calculation of PTPI. The large variation in PTPI among readers should also be clarified, and the whole data regarding interobserver variations should be demonstrated.

Second, in clinical practice, we encountered some cases of strangulated SBO where small bowel loops were herniated through an adhesive band between the greater omentum and anterior abdominal wall, which were misdiagnosed as type "A" transomental hernia. In the diagnosis of type "A" transomental hernia, we generally identify the omentum from the course of the omental arteries and veins as the landmark and assess the position of transition points of the herniated small bowel in relation to the omentum, in addition to the finding of displacement of the transverse colon. However, CT findings of the abovementioned cases are similar to those of transomental hernia, and it is difficult to distinguish them. We wonder if PTPI can be helpful in these situations. We would like the authors to show how many cases of adhesive SBO between the greater omentum and abdominal wall were included in adhesive SBO ($n=66$) and the values of PTPI in these cases in the current study and their difference.

Third, although the same disease entity, type "A or B" and "C" transomental hernia is a quite different condition in terms of the anatomical location of the herniated small bowel. The herniated small bowel is located in the omental bursa in type "C" transomental hernia, whereas that of type "A or B" transomental hernia is located in the peritoneal cavity [3]. Therefore, the diagnostic dilemma is different to each other. CT shows the herniated bowel in the omental bursa between the stomach and pancreas in type "C" transomental hernia as in the internal hernia through the transverse mesocolon defect or foramen of Winslow. The herniated small bowel in these cases usually displaces the transverse colon to the anterior caudal direction but not posteriorly. The PTPI in type "C" transomental hernia should be low and separately discussed from type "A or B" transomental hernia [2]. We appreciate if the authors could demonstrate the PTPI values in type "C" transomental hernia in the current study.

Finally, the greater omentum is a movable apron-like structure tethered by the greater curvature of the stomach and transverse colon. This unique structure can migrate to the inflammatory site, such as gastrointestinal perforation, acute appendicitis, and serosal tumor invasion to prevent disease progression [4]. The greater omentum can also be easily displaced to the caudal direction by the extremely dilated bowel, as mentioned in the article [2]. The diagnosis of transomental hernias through such displaced omentum should be problematic. Therefore, it is essential to identify two transition points next to each other in the fat tissue representing the greater omentum just below the abdominal

✉ Akitoshi Inoue
akino@belle.shiga-med.ac.jp

[1] Department of Radiology, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA

[2] Department of Radiological Science, Tokyo Metropolitan University, Higashioku, 7-2-10, Arakawa-ku, Tokyo, Japan

wall in the diagnosis of type A transomental hernia. The combination of PTPI and this finding should improve preoperative diagnostic accuracy in transomental hernia even in such atypical cases.

References

1. Furukawa A, Yamasaki M, Furuichi K, Yokoyama K, Nagata T, Takahashi M, et al. Helical CT in the diagnosis of small bowel obstruction. Radiographics. 2001;21(2):341–55.
2. Ito R, Mori K, Minamimura K, Hirata T, Kobayashi T, Kawasaki S. Displacement of the transverse colon is a highly specific computed tomography finding for the preoperative diagnosis of a transomental hernia. Jpn J Radiol. 2019;37(8):605–11.
3. Doishita S, Takeshita T, Uchima Y, Kawasaki M, Shimono T, Yamashita A, et al. Internal hernias in the era of multidetector CT: correlation of imaging and surgical findings. Radiographics. 2016;36(1):88–106.
4. Liebermann-Meffert D. The greater omentum. Anatomy, embryology, and surgical applications. Surg Clin N Am. 2000;80(1):275–93.