



In reply

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Dear Editor,

We reported the proportion of transverse colon loops posterior to dilated intestinal loops (PTPI) as a diagnostic finding of transomental hernia (TOH) [1] and received a letter from Inoue et al. disputing the value of PTPI [2]. They pointed out the limitations of the PTPI in atypical small bowel obstruction (SBO) cases and a possible observer bias as an intrinsic problem. They raised three issues: inter-observer variations, false positives (cases where obstructed loops adhere to the abdominal wall), and false negatives (Type C TOH). We would appreciate their comments.

First, we would like to discuss Type C TOH. Yamaguchi et al. [3] classified TOH as three types, namely Type A, B and C. Type A, B, and C2 may present with dilated small intestine loops anterior to the transverse colon. In theory, these three types could have high PTPI. In our study [2], TOH type C is subclassified as type C2 had a high PTPI (First observer: 97%, two inter observers: 100%). Meanwhile, Type C0 and C1 theoretically present TOH with low PTPI and these types were not included in our study.

Second, PTPI may be high among non-TOH SBO cases with adhesions between the greater omentum and the abdominal wall and such adhesions were observed during the operation in four cases in our study. They had comparatively high PTPI (0%, 28%, 55%, 84%). These false positive cases (non-TOHs with high PTPI) that Inoue et al. pointed out were indeed included in our series and we also mentioned other type atypical cases in the literature [1]. With the above-mentioned Type C0 or C1 TOH cases in addition,

some atypical cases would not support any sophisticated scoring system.

Although the data were not shown in our report, we verified the PTPI reproducibility by comparing PTPI scoring given by two additional interpreters. The rates of coincidence were 88% (error range of PTPI: $\pm 10\%$) and 74% (error range of PTPI: $\pm 20\%$), and this discordance might be attributed to the interpretations of the transverse colon locations, which could be ambiguous at times. Therefore, we mentioned this ambiguity in our report (line 4–27, p.610).

The internal hernia presents an emergent critical condition with high mortality rate [4], and CT is often interpreted just by surgeons, without an opinion from a radiologist (e.g. emergency at night, while the patient is taken to the operation room). If there is a high-resolution computed tomography (HRCT) in the hospital, then omental arteries and veins could be identified as landmarks. However, most of the internal hernia cases are diagnosed by a surgeon, in middle of the night, and without an available HRCT. We consider that in cases like these, axial CT images with 5 mm segments, might be a helpful diagnostic tool for identifying PTPI.

We consider PTPI should be used with other diagnostic findings (e.g., omental vascularity, the whirl sign, the “beak” sign and others). We recommend further analyses of PTPI to be conducted to improve accuracy.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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