Comments on “Reliability of AXIS Classification System for Prediction of Sigmoid Volvulus Severity”

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Dear editor,

It was a pleasure to read the paper “Reliability of AXIS classification system for prediction of sigmoid volvulus severity” by Mohamed [1], who evaluated 60 patients with sigmoid volvulus (SV) to determine the reliability of AXIS classification system, a therapeutic and prognostic guide based on abdominal X-ray radiography (AXR) findings. SV, a rare intestinal obstruction form worldwide arising from the wrapping of the sigmoid colon around itself, is endemic in my practicing area, Eastern Anatolia. My colleagues and I have the largest single-center SV series over the world [2], including 1030 cases over a 54-year period from June 1966 to July 2020. In light of this experience, my comments relate to the necessity and utility of AXIS classification system.

First, the AXIS classification system depends on AXR findings and classifies the patients into three groups based on mesenteric axis direction [1]. Although this system may give some information about the severity of SV and may facilitate treatment decision-making at an early stage in some cases, in my opinion and experience, its most important limitation is the usage of AXR findings. As the author declared, AXRs are diagnostic in 60–80% of SV patients [1], which was diagnostic in 68.1% of our patients. However, current diagnostic modalities including computerized tomography (CT) and endoscopy are more diagnostic with > 90% accuracy rates, and SV misdiagnosis is easy when CT or endoscopy is not used [2]. It is clear that the AXIS classification system may not be effective in patients with misdiagnosis depending on AXR findings, which constitutes 20–40% of all SV cases. For this reason, if possible, the evaluation of the mesenteric axis direction in CT findings in addition to AXRs may give truer information.

Second, although the AXIS classification system may demonstrate a positive correlation between high-grade SV (mesenteric axis > 90°, particularly > 135° from the horizontal) and bowel gangrene as well as the need for surgical treatment [1], in my opinion and experience, in SV, the factor affecting the development of bowel gangrene and the need for surgical treatment is not only the mesenteric axis position but also vascular anatomy, circulation capacity, symptom period, comorbidity, and rotation degree. For this reason, in SV, an early evaluation system must consider age, general condition (American Society for Anesthesiologists/ASA score), and the presence or bowel gangrene [3]. As the author discussed, the AXIS classification system proposes emergency surgical intervention in high-grade SV cases [1]. It is well known that, in SV, the mortality and morbidity rates are 0–2% and 2–15% in elective surgery following a successful endoscopic decompression, while 1–30% and 5–60% in emergency surgery [3]. Even if the AXIS classification system may provide guidance in most cases, to perform an emergency surgery instead of the elective procedure following endoscopy in all AXIS, high-grade cases may be unnecessary at least in some cases.

I congratulate the author for his practice, and I wonder about his opinion on my comments.

Compliance with Ethical Standards

Conflict of Interest The author declares that he has no conflict of interest.

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