

Predictive Markers for Surgical Indication in Sigmoid Volvulus with Grade II Ischemia

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Abstract

Background: Grade II ischemia in sigmoid volvulus presents challenges in surgical decision-making. This study compares outcomes between patients undergoing sigmoid resection during the first episode versus at recurrence.

Methods: A retrospective analysis of 63 patients with intraoperatively confirmed Grade II ischemia treated between 2018-2024 was performed. All underwent initial endoscopic decompression followed by surgical resection - either during the first episode (Group I, n=41) or at recurrence (Group II, n=22). Demographic, biochemical, and surgical outcomes were compared.

Results: Biochemical markers - including white blood cell count, CRP, D-dimer, serum lactate, and creatinine - were significantly elevated in recurrent cases (all $p < 0.001$). Lower blood pH values were observed in recurrent cases (7.23 vs. 7.29, $p < 0.001$) consistent with systemic acidosis. Operative time and intraoperative blood loss were higher in the recurrent group, and primary anastomosis was performed only in the first-episode group. Postoperative complications were more common in recurrent cases (31.8% vs. 12.2%, $p = 0.064$), and length of stay was longer (8.64 vs. 6.32 days, $p < 0.001$).

Conclusions: Delayed surgery at recurrence is associated with worsened inflammation, metabolic derangement, and higher surgical risk. Early surgery during the first episode offers better clinical outcomes.

Keywords: sigmoid volvulus, ischemia, endoscopic decompression, early surgery, inflammatory markers