Is There a "*Golden Window*" for Endoscopic Reduction of Acute Sigmoid Volvulus: A Multicenter Retrospective Study.

Husam Bader,MD[1]; Amer Abu-Shanab,MD[2]; Mohammad Darweesh,MD[3] ;Raghu Tiperneni,MD[1]; Poonam Raut,MD[1]; Vishakha Sirpal,MD[1]; Faisal Nimri,MD[4] ; Ratib Mahfouz,MD[5] Mubarak Sayyar, MD[6].

[1] Monmouth Medical Center, Department of Internal Medicine.
[2] University of Jordan, Department of Internal Medicine.
[3] East Tennessee State University, Department of Internal Medicine.
[4] Henry Ford Hospital, Department of Gastroenterology.
[5] Kent Hospital/Brown University, Department of Internal Medicine.
[6] Presbyterian Medical Center, Department of Gastroenterology

CONTACT

Husam Bader, MD.
Monmouth Medical Center
300 2nd ave, Long Branch NJ 07740
Husam.bader@rwjbh.org

INTRODUCTION

Colonic volvulus accounts for around 2% of all bowel obstructions in the United States. The involvement of the sigmoid colon consists of the overwhelming majority of colonic volvulus cases, possibly constituting up to 60.9–80%[1].
Per the American Society of Gastrointestinal endoscopy guidelines (ASGE), Non-operative detorsion with flexible sigmoidoscopy is considered first-line therapy in the management of sigmoid volvulus in patients without signs of peritonitis, perforation, or with recurrent or unsuccessful non-operative decompression [2][3][4]. Despite this recommendation, the ideal timing for endoscopic intervention remains unclear.

METHODS AND MATERIALS

We conducted a retrospective study in adult patients admitted for acute sigmoid volvulus in 4 academic centers from January/2010-January/2020. 47 Patients were identified using ICD-9 and ICD-10 codes. Inclusion criteria included adult patients who were initially managed with endoscopic detorsion. The time interval between diagnosis and endoscopic intervention was collected. Primary outcomes included the need for subsequent urgent surgical intervention within 30 days of the endoscopic intervention. Secondary outcomes were hospital length of stay and mortality.

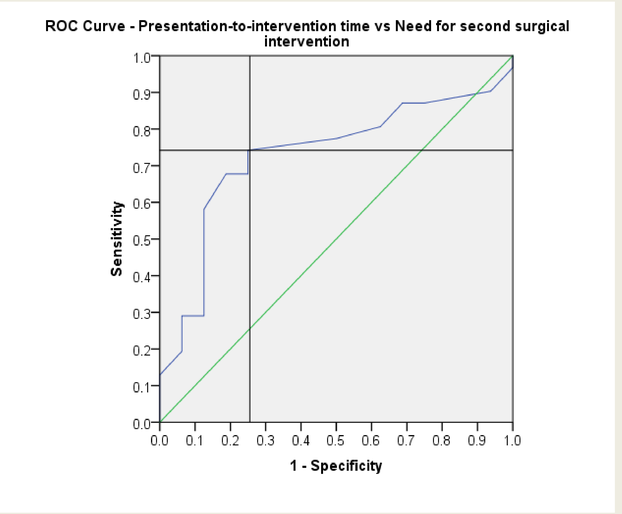
RESULTS

A total of 47 patients met the inclusion criteria. 33 patients were males (70.2%). The mean age of the sample was 71.0 (±16.5) years. Successful non-surgical reduction was achieved in 43 patients (91.5%). Endoscopic intervention was aborted in 4 patients for concerns of bowel ischemia or nonviable mucosa. 31 (66%) patients required urgent surgical intervention within 30 days of the endoscopic reduction, with an average interval period of 7 (±8.5) days. Surgical interventions included Hartmann's procedure, sigmoid colectomy with primary colorectal anastomosis, and total abdominal colectomy.

Early endoscopic reduction resulted in fewer subsequent urgent and emergent surgical interventions (p-value = 0.013). Using the ROC curve, a cut-off point of 8.5 hours was determined to be predictable of favorable outcomes with a sensitivity and specificity of 74.2%, and 75%, respectively. (Figure 1). Early endoscopic intervention was associated with shorter hospitalization (p-value = 0.001).

Patients Characteristics		
Category	Sub-category	Percentage (N)
Gender	Male	70.2% (33)
	Female	29.8% (14)
Race	White	59.6% (28)
	African American	27.7% (13)
	Hispanic	0% (0)
	Asian	4.3% (2)
	Unknown	8.5% (4)
ASA score	1	2.1% (1)
	2	10.6% (5)
	3	66% (31)
	4	21.3% (10)
Type of initial intervention	Colonoscopy	51.1% (24)
	Sigmoidoscopy	48.9% (23)
Successful initial endoscopic intervention	Yes	91.5% (43)
	No	8.5% (4)
Need for urgent surgical intervention	Yes	66% (31)
	No	34% (16)

	Mean (Std Deviation)	Median
Age (years)	71.0 (16.5)	73.0
Symptoms duration (hours)	56.9 (40.5)	48.0
Time from presentation to endoscopy (hours)	13.4 (9.6)	11.0
Hospital stay (days)	7.5 (5.2)	7.0
Time between endoscopy and surgical intervention (days)	7.0 (8.5)	3.5



CONCLUSIONS

Endoscopic decompressive intervention within 8.5 hours of diagnosis of acute sigmoid volvulus decreased early volvulus recurrence, bowel ischemia and subsequent need for urgent surgical interventions. This in return decreased hospital length of stay and allowed for planned ,rather than urgent, prophylactic surgical resection.

REFERENCES

[1] Halabi WJ, Jafari MD, Kang CY, Nguyen VQ, Carmichael JC, Mills S, Pigazzi A, Stamos MJ. Colonic volvulus in the United States: trends, outcomes, and predictors of mortality. *Ann Surg*. 2014;259(2):293–30
[2] Vogel JD, Feingold DL, Stewart DB, et al. Clinical practice guidelines for colon volvulus and acute colonic pseudo-obstruction. Dis Colon Rectum 2016;59:589-600.
[3] Bruzzi M, Lefevre JH, Desaint B, et al. Management of acute sigmoid volvulus: short- and long-term results. Colorectal Dis 2015;17:922-8.
[4] Mariam Naveed, Laith H. Jamil, Larissa L. Fujii-Lau, Mohammad Al-Haddad, James L. Buxbaum, Douglas S. Fishman, Terry L. Jue, Joanna K. Law, Jeffrey K. Lee, Bashar J. Qumseya, Mandeep S. Sawhney, Nirav Thosani, Andrew C. Storm, Audrey H. Calderwood, Mouen A. Khashab, Sachin B. Wani. *American Society for Gastrointestinal Endoscopy guideline on the role of endoscopy in the management of acute colonic pseudo-obstruction and colonic volvulus*, Gastrointestinal Endoscopy, Volume 91, Issue 2, 2020, Pages 228-235, ISSN 0016-5107.