



PROFILE OF SIGMOID DIVERTICULITIS PATIENTS AT RSUD DR. SOETOMO SURABAYA FROM 2019 TO 2024

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ABSTRACT

This study investigates the profile of patients with sigmoid diverticulitis treated at RSUD Dr. Soetomo Surabaya from June 2019 to June 2024. Diverticulitis is a prevalent non-cancerous pathology of the colon, predominantly affecting elderly individuals, and its incidence is increasing. The study aims to describe clinical characteristics, outcomes, Length of Stay (LOS), and complications associated with sigmoid diverticulitis. An observational analytic design was employed, analyzing case report data gathered during the specified period. Results indicate a higher prevalence in males, with significant age variation among patients. The study found a high incidence of complications, with a notable length of hospital stay correlated to the severity classified by the Hinchey grading system. These findings underscore the need for effective management strategies in treating sigmoid diverticulitis and lay the groundwork for future research in this area.

Keywords: complications; clinical characteristics; Hinchey classification; Length of Stay (LOS); outcomes; sigmoid diverticulitis

INTRODUCTION

Diverticulitis is one of the most common non-cancerous pathologies of the colon, particularly associated with elderly patients' cultural and dietary habits (Barton et al., 2025; Gottlieb et al., 2024; Hanna & Kaiser, 2021; Urquhart et al., 2024). There have been developments in understanding and managing diverticulitis (Barlas et al., 2024; Gottlieb et al., 2024; Tursi, 2018; You et al., 2019). It is characterized by inflammation of sac-like protrusions (diverticula) in the gastrointestinal tract, predominantly in the sigmoid colon. The condition's clinical manifestations vary widely, from asymptomatic presentations to severe complications like abscess formation, fistulas, and peritonitis (Gómez-Carrillo et al., 2024; Ibrahim et al., 2023; Koltun, 2015; Vanka et al., 2024; You et al., 2019).

The prevalence of diverticulitis varies globally, with notable differences between regions. In Asia, for instance, the condition often involves right-sided colonic diverticula, whereas left-sided diverticula are more common in Western populations. Despite its growing incidence and the rising demand for effective management strategies, comprehensive data regarding sigmoid diverticulitis characteristics in specific populations remain limited, especially in Indonesia (Garfinkle & Boutros, 2024; Hanna & Kaiser, 2021; Melio et al., 2024; Urquhart et al., 2024).

The prevalence of diverticulosis in Asia ranges from 13% to 25%, with a notable tendency for patients to have right-sided colonic diverticula, contrasting with European regions where left-sided diverticula are more common. Approximately 5% to 15% of those with diverticulosis experience bleeding, and about one-third of these cases involve heavier

bleeding. In 50% to 60% of diverticular bleeding cases, the source is identified as right-sided diverticula, attributed to the thinner wall of the right colon or the wider neck and dome of the diverticula, which increases exposure to potential injury. Diverticulitis occurs in 4% to 15% of patients with diverticula, with incidence rising with age; on average, affected individuals are around 63 years old. The overall incidence of diverticulitis has been increasing, particularly among younger adults aged 18 to 44, while men under 50 are more commonly affected compared to women aged 50 to 70. Above age 70, women show a significantly higher incidence of diverticulosis (Imaeda & Hibi, 2018; Leung et al., 2018; Pointer & Pfeil, 2019; Stott et al., 2011; Wan & Krisko, 2021).

A previous study by Imaeda & Hibi (2018) investigated sigmoid diverticulitis's clinical characteristics and outcomes through a retrospective analysis, focusing on older adults as the primary affected group. This research utilized the Hinchey classification system to assess severity and found that higher Hinchey grades were associated with increased morbidity and extended hospital stays. However, it primarily emphasized clinical outcomes without delving into demographic variations or proposing future research directions. In comparison, the current study conducted at RSUD by Dr. Soetomo Surabaya from 2019 to 2024 offers several novel contributions. It provides a more comprehensive demographic analysis, revealing a male predominance (66.7%) and significant age distribution, with the highest prevalence in the sixth decade of life.

Additionally, it highlights the correlation between complications (93.3% of cases) and more extended hospital stays, particularly in patients classified as Hinchey grade 3 or 4. Unlike the earlier study, this research emphasizes complications such as abscesses and fistulae as critical factors influencing treatment outcomes. Furthermore, it proposes future investigations into histopathological characteristics to understand better underlying mechanisms, which were not addressed in Imaeda and Hibi's work. These advancements underscore the current study's enhanced scope and relevance in improving management strategies for sigmoid diverticulitis.

In addition, Surabaya, especially RSUD Dr. Soetomo, does not yet have data on the characteristics of sigmoid diverticulosis. Researchers hope that studying these characteristics can provide appropriate management in patients with diverticulosis, and this research can be the beginning of future research.

This study analyzes the profiles of sigmoid diverticulitis patients treated at RSUD Dr. Soetomo in Surabaya from June 2019 to June 2024. The research aims to comprehensively understand the patient's clinical characteristics, treatment outcomes, Length of Stay (LOS), and complications. By identifying these key factors, the study seeks to improve diagnostic and therapeutic strategies, contributing to better patient prognosis and guiding future research. Moreover, Surabaya, particularly RSUD Dr. Soetomo, lacks data on sigmoid diverticulosis characteristics. Therefore, the researchers believe that examining these characteristics can lead to improved management for patients with diverticulosis, and this research may serve as a foundation for future studies.

Moreover, this study aims to describe the profile of patients with sigmoid diverticulitis treated at RSUD by Dr. Soetomo Surabaya from June 2019 to June 2024. The focus of the study included clinical characteristics, outcomes, a comparison of Length of Stay (LOS), and complications experienced by patients. The theoretical benefit is to provide a deeper understanding of this condition, while the clinical benefit is to improve the knowledge of healthcare professionals in diagnosing and managing sigmoid diverticulitis, as well as provide guidance for more effective treatment and improve patient prognosis.

METHOD

This study was conducted using an observational analytic design with a cross-sectional approach. This research design aims to analyze the characteristics of patients with sigmoid diverticulosis based on case report data collected from RSUD Dr. Soetomo Surabaya from 2019 to 2024. A cross-sectional study observes data at a single point in time, allowing for the identification of patterns and associations between variables within the specified population.

The study population included all case report data on sigmoid diverticulosis during the specified period. Total sampling based on inclusion and exclusion criteria was employed. The variables examined in this study included patient characteristics (independent variables) and the clinical aspects of sigmoid diverticulosis (dependent variables). Data was collected using documented hospital records, which were processed and analyzed using the SPSS version 27.0 software. The analysis focused on nominal and scale variables, including nutritional status and surgical measures such as bowel resections. The study aims to provide a detailed overview of patient demographics, disease severity, and outcomes to facilitate improved clinical management.

RESULTS AND DISCUSSION

Characteristics of Research Subjects

The study subjects comprised 20 men (66.7%) and 10 women (33.3%). Their age distribution ranged from the second to the eighth decade. The sixth decade had the highest number of samples, with as many as 9 (30%), followed by as many as eight samples (26.7%) in the fifth decade and as many as six samples (20%) in the seventh decade.

Table 1. Characteristics of the study sample

Characteristics	n	Percentage
Gender		
Male	20	66.7
Female	10	33.3
Age		
21-30	1	3.3
31-40	3	10
41-50	3	10

51-60	8	26.7
61-70	9	30
71-80	6	20

The table shows that 28 (93.3%) patients died, while 2 (6.7%) patients recovered.

Table 2. Outcome of patients with sigmoid diverticulosis

	n	Percentage
Died	28	93.3
Healed	2	6.7

The table shows that out of a total of 30 patients, the highest length of hospitalization was more than 13 days, as many as 16 (53.3%) patients, followed by between 7-9 days as many as 10 (33.3%) patients, then between 10-12 days as many as 4 (13.3%) patients.

Table 3. Length of hospital stay

	n	Percentage
7-9 days	10	33.3
10-12 days	4	13.3
>13 days	16	53.3

The table shows that out of a total of 30 patients who experienced complications, 28 (93.3%) patients and those who did not experience complications were 2 (6.7%) patients.

Table 4. Patients with complications

	n	Percentage
Complications	28	93.3
No Complications	2	6.7

The table shows the degree of Hickey in sigmoid diverticulosis patients: degree 1 affects as many as 3 (10%) patients, degree 2 affects as many as 7 (23.3%) patients, degree 3 affects as many as 12 (40%) patients, and degree 4 affects as many as 8 (26.7%) patients.

Table 5.5 Hickey degree of sigmoid diverticulosis patients

	n	Percentage
1st degree	3	10
2nd degree	7	23.3
3rd degree	12	40
4th degree	8	26.7

Discussion

This study generally discusses the characteristics of sigmoid diverticulosis patients from 2019 to 2024; most patients were male, as many as 20 (66.7%), and 10 were female (33.3%). The age distribution of the study subjects was in the range of the second decade to the eighth decade, with the highest number in the sixth decade, as many as nine samples (30%), followed by the fifth decade, as many as eight samples (26.7%), then the seventh decade as many as six samples (20%). This is by research conducted by Imaeda & Hibi (2018), who found that 33% of diverticulitis occurs in older individuals over 80. Before the sixth decade, diverticulitis was more common in men than women. This may be related to genetic, environmental, and lifestyle factors. Risk factors that increase the risk of sigmoid diverticulitis are more common in men, such as smoking, obesity, fatty foods, *red meat*, and grains.

This study showed that the degree of sigmoid diverticulitis based on the Hinchey classification was found to be degree 1 in as many as 3 (10%) patients, degree 2 in as many as 7 (23.3%) patients, degree 3 in as many as 12 (40%) patients, and degree 4 as many as 8 (26.7%) patients. In the last 3 decades, the Hinchey classification has been used more frequently in international literature, where Hinchey et al. Classify the severity of diverticulitis in 4 degrees. In this study, it was found that the most with degree 3, which is obtained purulent peritonitis in patients. This may be influenced by the pathophysiology of sigmoid diverticulitis, where symptoms are not found or asymptomatic, so patients do not perform examinations, usually found accidentally from radiological examinations. As the pressure on the diverticula wall increases, ulceration and perforation occur, leading to purulent peritonitis, which causes the patient to develop symptoms.

The highest length of hospital stay was more than 13 days with 16 (53.3%) patients, followed by between 7-9 days with 10 (33.3%) patients and between 10-12 days with 4 (13.3%) patients. There were 28 (93.3%) patients with complications and 2 (6.7%) patients without complications. This is related to the Hinchey classification found in patients, where most complications occur in patients with Hinchey degree 3. At the same time, there are no complications in patients with Hinchey degree 1 and degree 2. Therefore, it causes an increase in the length of treatment in patients due to treatment related to complications in patients. Complications that often occur in patients with sigmoid diverticulitis are abscess, peritonitis, obstruction, and fistula. Fistula formation most commonly involves the urinary vesica (colovesical fistula) or involves the vagina (colovaginal fistula).

CONCLUSION

The conclusion of this study shows that the characteristics of sigmoid diverticulosis patients in 2019 to 2024 have significant variations in gender, age, outcome, length of treatment, complications, and Hinchey's degree. This confirms that sigmoid diverticulosis is a condition that requires immediate and appropriate treatment. For future research, it is recommended further to examine the histopathological characteristics in patients with sigmoid diverticulosis to understand the underlying pathological mechanisms, complete

pathophysiological information related to this condition, and use a more extensive and more diverse sample, including various genders, ages, ethnicities, and races, to obtain a more representative picture and strengthen the validity of the study results.

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