

Multidisciplinary Healthcare Team In The Management Of Colon Diverticulitis: Nursing, Radiology, Pharmacy, And Laboratory Perspectives

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Abstract:

Background: Diverticulitis has become increasingly prevalent, especially in Western countries, contributing significantly to healthcare utilization and cost. Although traditionally associated with older adults, recent evidence shows rising incidence among younger populations. The condition ranges from uncomplicated inflammation to severe complications such as abscess, perforation, fistula, or peritonitis.

Aim: This article aims to present a comprehensive overview of diverticulitis from a multidisciplinary healthcare perspective, highlighting contributions from nursing, radiology, pharmacy, and laboratory services in diagnosis, management, and patient outcomes.

Methods: A narrative clinical review was developed using current epidemiological data, pathophysiological insights, diagnostic strategies, and evidence-based management guidelines. The experiences and roles of multidisciplinary teams were integrated to illustrate collaborative care pathways.

Results: Findings emphasize the multifactorial nature of diverticulitis, influenced by genetic, environmental, dietary, and lifestyle factors. CT imaging emerged as the diagnostic gold standard due to high sensitivity and specificity. Most uncomplicated cases respond to conservative outpatient therapy, while complicated disease warrants hospitalization and, in some cases, surgical intervention. Multidisciplinary collaboration significantly improves diagnostic accuracy, optimizes treatment decisions, enhances patient education, and reduces recurrence risk. Evidence also highlights evolving trends, including selective use of antibiotics and individualized decisions for elective colectomy.

Conclusion: Effective diverticulitis management requires integrated efforts across clinical disciplines. Early diagnosis, risk-based treatment selection, lifestyle modification, and coordinated follow-up are essential to improving outcomes and reducing recurrence.

Keywords: Diverticulitis, multidisciplinary care, CT imaging, conservative management, surgical intervention, patient education, recurrence prevention.

Introduction:

Diverticulitis has emerged as a progressively prevalent condition over recent decades, imposing a substantial burden on healthcare systems, particularly in Western countries [1]. In the United States, acute episodes of diverticulitis account for approximately 200,000 hospital admissions annually, generating healthcare expenditures estimated at \$2.2 billion [2]. While the incidence of diverticular disease predominantly increases with advancing age, younger adults are not exempt from its development. Historically, it was assumed that younger and male patients were predisposed to a more severe disease course, characterized by heightened rates of complications and increased recurrence [3]. Nevertheless, contemporary research has questioned this long-held assumption, suggesting that the aggressiveness of the disease may not be strictly determined by age or sex. The pathogenesis of diverticular disease involves a complex interplay of environmental and genetic factors, although robust evidence supporting the contribution of specific risk determinants remains limited. Dietary patterns, lifestyle behaviors, and hereditary predisposition are believed to modulate disease onset and progression, yet definitive causative mechanisms are still under investigation. Despite the potential severity of the condition, the majority of diverticulitis cases can be effectively managed in outpatient settings. Standard therapeutic approaches typically involve oral antibiotic regimens alongside temporary dietary modifications designed to reduce gastrointestinal stress and promote mucosal healing. Elective surgical intervention, particularly sigmoid colectomy, in patients recovering from uncomplicated diverticulitis continues to be a subject of debate within the medical community. The decision to pursue surgery necessitates individualized clinical assessment, balancing the risks of recurrence and complications against the potential morbidity associated with operative procedures. Conversely, in cases of complicated diverticulitis—such as those involving abscess formation, perforation, fistula development, or peritonitis—surgical management is widely endorsed as the standard of care. Timely operative intervention in these scenarios is critical to mitigate life-threatening complications and optimize long-term patient outcomes. Overall, diverticulitis represents a multifaceted gastrointestinal disorder with variable clinical manifestations and outcomes. Continuous advancements in understanding its epidemiology, risk factors, and management strategies are essential to refine therapeutic decision-making and reduce the overall healthcare burden associated with this increasingly common disease [1][2][3][4].

Etiology

Diverticular disease originates from the formation of mucosal outpouchings along the colonic wall, commonly referred to as diverticula. These structural abnormalities arise due to focal weaknesses in the muscular layer of the colon, which allow the mucosa and submucosa to herniate through the bowel wall. Inflammation of these diverticular outpouchings is central to the development of diverticulitis, contributing to the clinical manifestations of abdominal pain, fever, and altered bowel habits. Traditionally, the pathophysiology of diverticulitis has been attributed to bacterial overgrowth within the diverticula, often triggered by obstruction at the diverticular base by fecal material. This obstruction is thought to promote local bacterial proliferation, resulting in micro-perforations, mucosal inflammation, and, in more severe cases, abscess formation or peritonitis. The fecal stasis and subsequent bacterial invasion have long been considered the primary mechanism underlying acute episodes of diverticulitis, guiding the widespread use of antibiotics as a mainstay of treatment. However, recent research has begun to challenge this conventional understanding. Emerging studies indicate that selected patients with uncomplicated diverticulitis may achieve clinical resolution without the administration of antibiotics, suggesting that inflammation rather than infection may play a more significant role in certain cases [4]. This evolving perspective underscores

the complexity of diverticulitis pathogenesis, indicating that multiple factors—including localized immune response, microbiome alterations, and structural vulnerabilities of the colon—may interact to precipitate disease. While bacterial involvement remains relevant in complicated cases, the recognition that uncomplicated episodes may resolve spontaneously has implications for treatment protocols, potentially reducing unnecessary antibiotic use and associated complications. Consequently, a nuanced understanding of the etiological mechanisms of diverticulitis is critical for optimizing patient management and developing targeted therapeutic strategies [4].

Epidemiology

Diverticulosis of the colon is a highly prevalent condition, particularly in Western populations, with its incidence rising significantly with advancing age. Epidemiological data indicate that over 50% of individuals above 60 years of age exhibit colonic diverticulosis, and this prevalence increases to approximately 70% in individuals older than 80 years [5]. Despite the widespread occurrence of diverticulosis, the progression to diverticulitis remains relatively uncommon, with only around 4% of affected individuals experiencing clinical diverticulitis over their lifetime [6]. The anatomical distribution of diverticula varies across populations, reflecting both environmental and genetic influences. In Western countries, diverticula predominantly involve the sigmoid colon, accounting for nearly 65% of cases [1]. Conversely, right-sided colonic involvement is more frequently observed in Asian populations. This discrepancy was historically attributed to differences in dietary fiber consumption; however, subsequent epidemiological studies have challenged this hypothesis. Analyses of Asian populations who relocated to Western regions and adopted Western diets revealed no significant alteration in diverticular distribution, suggesting that factors beyond diet, including genetic predisposition, play a crucial role in disease manifestation [7]. Twin studies further reinforce the contribution of heritable factors, demonstrating a strong genetic susceptibility to diverticulosis, independent of environmental exposures [8]. Several environmental factors have been proposed as contributors to the development of diverticular disease, although many remain subject to debate. Early investigations, including a landmark study in 1970, suggested that a high-fiber diet confers protection against the development of diverticular disease [9]. While evidence has been mixed, current clinical guidelines, including those from the American Gastroenterology Association and the American Society of Colon and Rectal Surgeons, recommend a fiber-rich diet for patients with a history of diverticulitis, as increased fiber intake has been associated with reduced recurrence of both uncomplicated and complicated diverticulitis [10]. Traditional dietary restrictions, such as avoiding nuts, seeds, and popcorn, have been reconsidered, as contemporary research indicates that these foods do not elevate the risk of developing diverticulitis [11]. Conversely, the consumption of red meat, particularly beef and lamb, has been linked with higher rates of hospitalization due to diverticulitis. Additional lifestyle factors, including obesity, smoking, and alcohol consumption, are also correlated with an increased incidence of diverticular disease [12].

Pharmacological exposures further influence disease risk. The use of nonsteroidal anti-inflammatory drugs (NSAIDs), aminosalicylates, and acetaminophen has been associated with an elevated likelihood of complicated diverticulitis, while ongoing corticosteroid therapy has been shown to double the risk of perforated diverticulitis [13]. Protective factors have also been identified. Vigorous physical activity, such as running, has been associated with a 25% reduction in the risk of complicated diverticulitis, whereas lighter activities, such as walking, confer more modest benefits [14]. Statin therapy has demonstrated a potential protective effect against perforated diverticulitis. Overall, maintaining a healthy body weight, engaging in regular physical activity, and abstaining from smoking constitute modifiable strategies to reduce the risk and severity of diverticular disease. These findings underscore the multifactorial etiology of diverticulosis and diverticulitis, highlighting the interplay of genetic, environmental, lifestyle, and pharmacological factors in disease epidemiology [11][12][13][14].

Pathophysiology

Although diverticulosis is a highly prevalent condition, the underlying mechanisms governing its development remain incompletely understood. The fundamental anatomical abnormality in diverticulosis

involves the formation of colonic diverticula, which are outpouchings of the colonic mucosa that herniate through focal weaknesses in the muscular layer of the colon. These weak points correspond to locations where the vasa recta penetrate the colonic wall to supply blood to the submucosa and mucosa, creating areas susceptible to structural compromise [4]. The resulting mucosal herniation forms the characteristic diverticular sacs that define the disease. Structural changes in the colonic wall, combined with altered neuromuscular function, appear to contribute to the formation and progression of these diverticula. In patients with diverticulosis, intraluminal pressures within the colon are elevated during peristaltic activity. Historically, it was hypothesized that these high pressures, particularly when exacerbated by constipation and straining during defecation, serve as the primary initiating factor for diverticular formation. According to this theory, repetitive mechanical stress on the colonic wall leads to mucosal herniation at the points of anatomical weakness [8]. However, recent evidence has called this model into question, suggesting that additional factors beyond intraluminal pressure may play significant roles in the disease process. These factors likely include alterations in connective tissue integrity, local inflammatory responses, changes in colonic motility patterns, and interactions with the gut microbiome, which together may influence susceptibility to diverticula formation and progression to diverticulitis [4][8]. Current understanding of diverticulosis pathophysiology emphasizes its multifactorial nature, indicating that structural, mechanical, and possibly immunological components interact to produce the characteristic colonic changes. While increased intraluminal pressure may contribute to the formation of diverticula, it is increasingly clear that diverticulosis cannot be explained solely by mechanical forces. Continued research is essential to clarify these mechanisms, as a more precise understanding of the pathophysiology may inform preventive strategies, optimize clinical management, and guide targeted interventions for patients at risk of progression from asymptomatic diverticulosis to acute or complicated diverticulitis [8].



Fig. 1: Colon Diverticulosis.

History and Physical

The majority of patients with colonic diverticulosis remain asymptomatic, and the presence of diverticula is often discovered incidentally during colonoscopy or radiologic examinations performed for unrelated reasons. In these cases, the disease is typically detected before any clinical manifestations arise, highlighting the largely silent nature of diverticulosis in the general population. Conversely, patients with acute diverticulitis often present with a constellation of clinical features that reflect localized inflammation of the colonic wall. Among these, left lower quadrant abdominal pain is the most prevalent symptom, reported in approximately 70% of cases. The pain is generally described as crampy and may be accompanied by alterations in bowel habits, including constipation or, less commonly, diarrhea. These overlapping features can make the initial presentation of diverticulitis difficult to distinguish from functional gastrointestinal disorders such as irritable bowel syndrome, necessitating careful clinical evaluation. Additional gastrointestinal symptoms frequently observed in diverticulitis include nausea, vomiting, bloating, and flatulence. In some cases, acute diverticulitis may manifest secondary to complications, including colonic abscess formation, intestinal perforation, or fistula development, which may markedly influence both presentation and prognosis. Laboratory investigations often reveal leukocytosis and elevated inflammatory markers, supporting the diagnosis of an acute inflammatory process [15]. In patients with complicated diverticulitis, systemic signs such as fever, tachycardia, or hypotension may indicate the onset of sepsis, while physical examination may reveal findings consistent with peritonitis. Clinical assessment may demonstrate abdominal tenderness, distension, and in certain cases, a palpable tender mass corresponding to localized inflammation or abscess formation. Bowel sounds may be diminished or absent in more severe cases, reflecting an associated ileus. Fistula formation represents a significant complication of diverticulitis and may produce additional diagnostic clues. The presence of fecaluria or pneumaturia should prompt the clinician to consider a colovesical fistula, which requires timely identification and management. Overall, thorough history-taking and meticulous physical examination are essential for differentiating uncomplicated diverticulitis from other gastrointestinal disorders, identifying potential complications, and guiding appropriate imaging and laboratory evaluation. Recognizing these clinical patterns allows for accurate diagnosis and informs decisions regarding outpatient management versus urgent surgical intervention, particularly in patients with signs of systemic involvement or peritoneal irritation [15].

Evaluation

The evaluation of acute diverticulitis relies on a systematic integration of clinical, laboratory, and imaging findings to establish a definitive diagnosis and guide management decisions. When a patient presents with a history and physical examination suggestive of diverticulitis, supported by laboratory results such as leukocytosis and elevated inflammatory markers, confirmatory imaging becomes a critical next step. Several imaging modalities have been utilized in the assessment of diverticular disease, including abdominal ultrasound and barium enema studies. Although these techniques can identify diverticula and associated complications, their sensitivity and specificity are limited compared to cross-sectional imaging. Computed tomography (CT) of the abdomen and pelvis with intravenous and oral contrast has emerged as the preferred imaging modality due to its high diagnostic accuracy, with reported sensitivity reaching 98% [16]. Prior to contrast administration, evaluation of renal function is essential to prevent contrast-induced nephropathy, particularly in patients with preexisting renal impairment. CT findings typically reveal colonic wall thickening, pericolic fat stranding, and localized inflammatory changes, which are hallmarks of diverticulitis. In addition, CT imaging is particularly valuable in detecting complications such as abscess formation, fistulas, or the presence of intra-abdominal free air, which may indicate perforation [17]. The severity of diverticulitis can be classified using the Hinchey classification system, which stratifies patients based on the extent of local and systemic disease and informs subsequent treatment strategies. Patients with Hinchey stage 1a and 1b disease are generally candidates for conservative management with antibiotics and dietary modification, whereas those with Hinchey stage 2 may require percutaneous drainage of abscesses followed by elective surgical intervention. In contrast, patients presenting with Hinchey stage 3 or 4 disease necessitate urgent surgical intervention due to the presence of generalized peritonitis or fecal contamination. Additional investigations are warranted in selected patient populations. Urinalysis may reveal hematuria or

pyuria, raising suspicion for a colovesical fistula. In females of childbearing potential presenting with lower abdominal pain, pregnancy testing is mandatory to exclude ectopic pregnancy as a differential diagnosis. Overall, the evaluation of diverticulitis requires a multidisciplinary approach, combining thorough clinical assessment with targeted imaging and laboratory investigations to accurately determine disease severity, identify complications, and guide appropriate therapeutic interventions. This structured approach ensures timely diagnosis, optimizes patient outcomes, and facilitates the stratification of patients to either conservative or surgical management pathways [15][16][17].



Fig. 2: Complicated diverticulitis with abscess.

Treatment / Management

The management of acute non-complicated diverticulitis primarily involves conservative medical therapy, including the administration of oral or intravenous antibiotics, adequate analgesia, maintenance of hydration, and temporary restriction of oral intake. Antibiotic therapy remains a cornerstone of treatment, though the optimal choice of agents, route of administration, and duration of therapy remain subjects of ongoing debate [18]. Uncomplicated diverticulitis is typically amenable to outpatient management, with oral antibiotics such as ciprofloxacin, metronidazole, or amoxicillin-clavulanate prescribed for a duration of seven to ten days, coupled with recommendations to limit oral intake until symptoms abate [15]. Patients who are febrile, immunocompromised, unable to maintain hydration, or who present with multiple comorbidities are generally admitted for inpatient care, during which parenteral antibiotics are administered. Diet is gradually advanced as clinical improvement is observed, and patients are transitioned

to oral antibiotic therapy. Those who fail to respond to parenteral therapy or exhibit clinical deterioration require repeat evaluation, often with CT imaging, to assess for evolving complications [15]. Following resolution of the acute episode, colonoscopy is advised within six to eight weeks, particularly in patients who have not undergone endoscopic evaluation in the preceding two to three years [15]. Historically, elective sigmoid colectomy was recommended after a second episode of uncomplicated diverticulitis; however, contemporary evidence has challenged this practice. The recurrence rate for uncomplicated diverticulitis is lower than previously estimated, ranging between 13% and 23%, while the incidence of complicated recurrent episodes necessitating stoma formation remains approximately 6% [10]. Consequently, current guidelines advocate individualized consideration for elective surgery, incorporating factors such as the number, severity, and frequency of episodes, persistent post-episode symptoms, immunologic status, age, comorbid conditions, and social circumstances. Routine prophylactic colectomy is no longer recommended for patients under 50, who should receive management equivalent to that of older individuals. Surgical intervention, whether via open, laparoscopic, or robotic techniques, entails complete resection of the sigmoid colon with careful attention to the integrity and perfusion of the proximal and distal anastomotic sites, ensuring tension-free anastomosis.

Surgical intervention is required in approximately 1% of patients experiencing an acute episode of diverticulitis [19]. Emergent surgery is indicated for patients presenting with peritonitis. In cases of confirmed perforated diverticulitis, the conventional procedure is a Hartmann operation, which involves resection of the sigmoid colon, preservation of the rectum as a rectal pouch, and creation of an end colostomy. This approach mitigates the risk of anastomotic leak, with colostomy reversal considered within three to six months. Nevertheless, advanced age and comorbidities preclude reversal in nearly 30% of cases [15]. An alternative strategy for patients with Hinchey stage 3 or 4 disease is primary colorectal anastomosis with proximal diverting ileostomy, which retrospective analyses suggest may reduce overall mortality, although randomized controlled trials comparing this approach to the Hartmann procedure are lacking [20]. Previously employed staged procedures involving leaving the diseased sigmoid in situ with proximal stoma placement are no longer recommended due to suboptimal outcomes. Inpatient management is indicated for patients with complicated diverticulitis or risk factors predictive of severe disease [21]. Criteria for admission include evidence of frank perforation, symptomatic abscess formation, bowel obstruction, fistula development, or signs of systemic inflammatory response syndrome, characterized by temperature greater than 38°C or less than 36°C, heart rate exceeding 90 beats per minute, respiratory rate above 20 breaths per minute, white blood cell count greater than 12,000 or less than 4,000 cells/mm³, or elevated C-reactive protein levels above 15 mg/dL. Physical examination may reveal diffuse peritonitis, and imaging may identify micro-perforations or extramural colonic air. Advanced age, immunocompromised status, intolerance to oral intake, and comorbidities such as diabetes with end-organ damage or recent cardiovascular events also necessitate inpatient care. Management consists of intravenous antibiotics, hydration, analgesia, and bowel rest, with some centers evaluating the efficacy of liquid diets during treatment [18][19].

Patients not meeting inpatient criteria may receive outpatient therapy, including analgesics and restricted oral intake, with clinical reassessment within 48 to 72 hours. Lack of improvement necessitates transition to inpatient management. During hospitalization, evaluation for complications such as perforation, obstruction, fistula formation, and abscesses is essential. Drainable abscesses measuring four centimeters or greater should undergo percutaneous drainage, whereas smaller abscesses are monitored for clinical improvement over the first three days. Outpatient responders are gradually advanced in diet with weekly reassessment and scheduled colonoscopy within six weeks post-resolution [21][22]. Even patients with normal colonoscopy findings may require surgical referral if they are immunocompromised or have experienced complicated diverticulitis [22]. A high-fiber diet is recommended following recovery to mitigate recurrence risk, with individualized follow-up and monitoring tailored to patient-specific factors.

Differential Diagnosis

The clinical presentation of diverticulitis can be highly variable and depends largely on the anatomical location of the affected colonic segment. Right-sided diverticulitis, for example, often presents symptoms

that closely resemble acute appendicitis, including right lower quadrant pain, tenderness, and localized guarding. This similarity can result in diagnostic uncertainty, particularly in younger adults, necessitating careful evaluation to distinguish between these conditions. Diverticulitis occurring in the transverse colon may mimic other intra-abdominal pathologies such as peptic ulcer disease, pancreatitis, or acute cholecystitis due to overlapping symptomatology including upper abdominal pain, nausea, and localized tenderness. Left-sided diverticulitis, more common in Western populations, frequently presents with left lower quadrant pain, fever, and alterations in bowel habits, but must still be differentiated from multiple other gastrointestinal, genitourinary, and gynecological conditions. The differential diagnosis of diverticulitis is therefore extensive. Gastrointestinal conditions such as acute gastritis, pancreatitis, appendicitis, cholecystitis, mesenteric ischemia, constipation, irritable bowel disease, and irritable bowel syndrome can all mimic diverticulitis in clinical presentation. Genitourinary disorders including acute pyelonephritis and cholangitis may present overlapping symptoms of fever and abdominal pain. In female patients, gynecological conditions such as pelvic inflammatory disease, ovarian cysts, or ectopic pregnancy may present with lower abdominal or pelvic pain, further complicating the clinical picture. Because of these potential overlaps, accurate diagnosis requires careful integration of patient history, physical examination findings, laboratory markers, and imaging studies. Misdiagnosis can result in inappropriate management, including unnecessary surgery or delayed treatment of serious complications. Clinicians must maintain a broad differential while using targeted diagnostic strategies, such as CT imaging with contrast, to identify the characteristic signs of diverticulitis and exclude alternative causes of acute abdominal pain, thereby optimizing patient outcomes and minimizing complications [18].

Pertinent Studies and Ongoing Trials

Emerging research has challenged traditional paradigms regarding the necessity of antibiotic therapy in all cases of uncomplicated diverticulitis. Recent clinical studies have demonstrated that selected patients with uncomplicated disease may achieve resolution without the use of antibiotics. These trials carefully excluded patients with peritonitis, perforation, hemodynamic instability, or systemic signs of sepsis. While a minority of patients developed complications such as localized abscesses or micro-perforations, the overall risk was low, and there was no significant difference in primary clinical outcomes between patients managed with and without antibiotics [18]. These findings suggest a potential shift toward more individualized and conservative management strategies, emphasizing clinical monitoring and supportive care in appropriate cases. However, the evidence remains preliminary, and larger randomized controlled trials are necessary to validate these observations and to define patient selection criteria more clearly. In cases of complicated diverticulitis, particularly in patients with generalized peritonitis secondary to perforation, surgical intervention remains the standard of care. The traditional Hartmann procedure, which involves resection of the diseased sigmoid colon, creation of an end colostomy, and preservation of the rectal stump, has been widely employed to minimize the risk of anastomotic leak. Primary colorectal anastomosis with a proximal diverting stoma has also been explored, with retrospective data suggesting reduced mortality compared to traditional approaches. Laparoscopic peritoneal lavage has been investigated as a minimally invasive alternative for perforated diverticulitis; however, subsequent studies have failed to reproduce the initial promising outcomes, leaving this approach controversial [23]. These ongoing studies underscore the evolving nature of diverticulitis management and the need for continued investigation to refine therapeutic algorithms and optimize patient outcomes.

Prognosis

The prognosis of diverticulitis is influenced predominantly by the severity of the acute episode and the presence of complications. Uncomplicated diverticulitis generally carries a favorable prognosis, with low rates of morbidity and mortality when appropriately managed. In contrast, patients who are immunocompromised, such as those with human immunodeficiency virus (HIV) infection or those receiving immunosuppressive therapy, exhibit significantly higher morbidity and mortality, particularly in cases of sigmoid diverticulitis [24]. Recurrence following an initial episode remains a clinical consideration; epidemiological data indicate a five-year recurrence rate of approximately 20% [25]. This

risk is further modulated by patient-specific factors, including body mass index (BMI), with multiple studies demonstrating a positive correlation between increased BMI and the likelihood of developing diverticulitis [26]. Other variables influencing prognosis include age, comorbid conditions, and adherence to dietary and lifestyle interventions, underscoring the importance of individualized patient assessment and follow-up.

Complications

Diverticulitis can result in a spectrum of complications, some of which carry significant morbidity and mortality, particularly in immunocompromised populations. Abscess formation represents the most frequent complication, arising from localized perforation and bacterial proliferation within pericolic tissues. Intestinal perforation can lead to generalized peritonitis, necessitating emergent surgical intervention. Fistula formation, such as colovesical or colovaginal fistulas, occurs due to chronic inflammation and micro-perforation between adjacent organs. Intestinal obstruction may develop secondary to inflammatory strictures or adhesions. Other severe complications include diffuse peritonitis and systemic sepsis, both of which significantly increase mortality risk if not promptly recognized and treated. Immunocompromised patients, including those with HIV infection or on long-term immunosuppressive therapy, are particularly vulnerable to these severe outcomes, including perforation and septicemia [27]. The complexity and potential severity of diverticulitis underscore the necessity for early recognition, accurate risk stratification, and prompt intervention, whether conservative or surgical, tailored to the patient's clinical status and comorbid conditions [27].

Consultations

Effective management of diverticulitis relies heavily on the coordinated efforts of an interprofessional healthcare team, which integrates diverse expertise to optimize patient outcomes. Gastroenterologists play a central role in evaluating patients for diagnostic and therapeutic interventions, guiding both conservative and post-acute care management. Internists contribute by addressing comorbid conditions and ensuring that systemic health factors, such as diabetes, cardiovascular disease, or renal impairment, are appropriately managed, which is particularly crucial in patients with complicated diverticulitis. General surgeons are essential for evaluating the need for operative intervention, planning surgical approaches, and managing complications such as perforation, abscesses, or fistulas. Within surgical management, collaboration with colostomy care nurses ensures that patients receive comprehensive education regarding stoma care, proper hygiene, and strategies to prevent infection or skin breakdown postoperatively. Specialty-trained gastroenterology nurses facilitate ongoing patient education, monitor clinical progress, and support adherence to dietary and pharmacologic recommendations. Their role extends to coordinating outpatient follow-up, ensuring that colonoscopy and imaging schedules are maintained, and communicating symptom changes promptly to physicians. Pharmacists complement these efforts by performing medication reconciliation, monitoring potential drug interactions, adjusting doses for renal or hepatic impairment, and providing patient counseling regarding antibiotic regimens, analgesics, and other pharmacologic interventions. Collectively, these professionals collaborate to establish standardized protocols, provide real-time clinical consultation, and ensure seamless communication across inpatient and outpatient settings. This multidisciplinary framework not only enhances the accuracy of diagnosis and the timeliness of intervention but also facilitates individualized care planning. The integration of clinical, surgical, and pharmacologic expertise allows for stratified treatment decisions, ensuring that patients with non-complicated diverticulitis are appropriately managed conservatively while those with severe or complicated disease receive prompt surgical evaluation. Regular team discussions, case reviews, and shared decision-making processes foster consistency in treatment, minimize medical errors, and improve patient satisfaction. By leveraging the combined skills of gastroenterologists, internists, surgeons, specialty nurses, and pharmacists, interprofessional consultation ensures that all aspects of diverticulitis management, from acute care to long-term prevention, are addressed comprehensively and effectively [25][26][27].

Patient Education

Preventing recurrence of diverticulitis requires a proactive approach emphasizing patient education and lifestyle modification. One of the most critical elements in long-term management is dietary intervention, with a high-fiber diet recommended to improve colonic motility and reduce intraluminal pressure, which may mitigate the formation of new diverticula. Patients are advised to consume six to eight glasses of water daily, as adequate hydration facilitates normal bowel function and prevents constipation, a recognized contributing factor in diverticular disease progression. Regular physical activity is also encouraged, as exercise has been shown to reduce intraluminal pressures, improve gastrointestinal transit, and promote overall metabolic health. Patient education should include strategies for monitoring bowel habits and recognizing early warning signs of recurrent diverticulitis, including changes in stool consistency, abdominal pain, bloating, and fever. Stool softeners may be recommended for patients prone to constipation, providing a low-risk adjunctive measure to reduce straining during defecation. Comprehensive counseling ensures that patients understand the rationale for these interventions, reinforcing adherence and promoting autonomy in self-management. In addition, patients should be informed about the importance of routine follow-up, including colonoscopy and imaging as indicated, to detect potential complications or predisposing anatomical changes. Effective education also addresses the role of pharmacologic management and its limitations, emphasizing that antibiotics are indicated only for acute episodes and should not be used empirically for nonspecific abdominal discomfort. Counseling regarding lifestyle modifications and symptom monitoring should be personalized, considering age, comorbidities, and social circumstances, to ensure practical and sustainable adherence. By equipping patients with knowledge and skills to manage their condition proactively, healthcare providers can significantly reduce the risk of recurrent diverticulitis, enhance quality of life, and prevent complications that necessitate hospitalization or surgical intervention. Structured education programs, including written materials, dietary counseling, and individualized action plans, provide a framework for sustained behavioral change and long-term disease prevention [27].

Enhancing Healthcare Team Outcomes

The increasing incidence of diverticulitis across all age groups presents a substantial challenge to healthcare systems, highlighting the necessity for effective interprofessional collaboration. Optimal outcomes are achieved when primary care physicians, nurse practitioners, physician assistants, gastroenterologists, surgeons, nurses, pharmacists, and dietitians work collectively to provide comprehensive patient care. Education and counseling form a central component of this collaborative model, with all team members actively involved in reinforcing knowledge about modifiable risk factors such as obesity, sedentary lifestyle, and poor dietary habits. Pharmacists contribute by performing medication reconciliation, advising on appropriate dosing, identifying potential drug interactions, and communicating concerns to prescribing clinicians, thereby reducing the risk of medication-related complications. Nurses facilitate coordination among clinicians, provide bedside education, assist with procedures, and monitor post-operative recovery, ensuring continuity and safety throughout the patient's care trajectory. A paradigm shift toward outpatient management of non-complicated diverticulitis has demonstrated the benefits of individualized care, reduced hospitalizations, and minimizing unnecessary antibiotic use. Nevertheless, empirical administration of antibiotics for recurrent abdominal pain without confirmatory evaluation remains a persistent issue, underscoring the need for consistent application of evidence-based guidelines. Colostomy care nurses play a critical role in educating patients to undergo surgical interventions, including stoma management, hygiene, and lifestyle adaptations, thereby improving long-term quality of life and reducing complications. Accurate documentation and meticulous record-keeping across the care team ensure that all clinicians have access to current patient information, enhancing decision-making and care continuity. Advances in imaging modalities have facilitated precise assessment of disease severity, allowing clinicians to stratify patients to appropriate treatment algorithms effectively. Individualization of elective sigmoid colectomy decisions following the resolution of non-complicated diverticulitis has minimized unnecessary surgical interventions while optimizing outcomes. Interprofessional teams thereby ensure that management is not only evidence-based but also patient-centered, incorporating clinical, surgical, pharmacologic, and psychosocial considerations. Continuous communication, shared decision-making, and adherence to updated clinical

protocols are essential in improving both individual patient outcomes and broader healthcare system efficiency, ultimately reducing the burden of diverticulitis through integrated, multidisciplinary care [27].

Conclusion:

Diverticulitis represents a complex gastrointestinal condition shaped by structural, environmental, and lifestyle determinants. Although its overall prognosis is favorable in uncomplicated cases, the presence of comorbidities, advanced age, and immunosuppression can dramatically worsen outcomes. This article underscores that optimal management cannot rely on a single clinical discipline; rather, it depends on coordinated, evidence-based collaboration among gastroenterologists, surgeons, nurses, pharmacists, radiologists, and laboratory specialists. Radiology plays a pivotal role in early and accurate diagnosis, guiding timely therapeutic decisions. Nursing and pharmacy professionals enhance patient support through education, monitoring, medication optimization, and reinforcement of lifestyle recommendations. A key finding of the review is the shift toward individualized treatment—moving away from routine antibiotic use and automatic surgical intervention toward more tailored strategies based on disease severity and patient factors. Preventive strategies, including dietary fiber intake, hydration, physical activity, and smoking cessation, remain crucial in mitigating recurrence risks. Ultimately, multidisciplinary collaboration improves accuracy, reduces complications, enhances patient satisfaction, and promotes continuity of care. As the incidence of diverticulitis continues to rise, especially among younger adults, comprehensive, patient-centered approaches remain vital for reducing disease burden and improving long-term outcomes.

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