

Treatment of Diverticular Disease Depends on the Severity of the Clinical Picture

Siniša Franjić*

Independent Researcher, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Republic of Croatia

***Corresponding author:** Siniša Franjić, Independent Researcher, Independent Researcher, Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Republic of Croatia

ARTICLE INFO

Received: 📅 August 03, 2023

Published: 📅 August 14, 2023

Citation: Siniša Franjić. Treatment of Diverticular Disease Depends on the Severity of the Clinical Picture. Biomed J Sci & Tech Res 52(2)-2023. BJSTR. MS.ID.008217.

ABSTRACT

Diverticular disease is a condition in which small pouches of the intestinal mucosa develop on the large intestine and protrude through the intestinal wall like small balloons. These bags are called diverticula. If the pouches become inflamed, the condition is known as diverticulitis.

Keywords: Diverticula; Diverticulitis; Diverticulosis; Perforation; Bleeding

Introduction

Diverticular disease more often than not presents with chronic left-sided abdominal pain and a alter in bowel propensity, or intense abdominal indications [1]. In any case, the disease may show with rectal bleeding. The bleeding is ordinarily intense, enormous and new. The ordinarily elderly persistent feels a small faint, gets lower abdominal pain, and after that incorporates a want to defaecate. When they purge the rectum, they pass a large volume of new blood and clots. This sort of bleeding may be a common reason for crisis confirmation. Surprisingly, the quiet is once in a while stunned and does not require transfusion. A barium bowel purge or colonoscopy is carried out and diverticular disease is found. In some cases bleeding is seen to be coming from an disintegrated supply route within the mouth of a diverticulum. In any case, in numerous patients, the diverticular infection is coincidental and the bleeding is caused by angiodysplasia of the colonic mucosa. Surgery is exceptionally rarely required. Two sorts of diverticula of colon are perceived —

(i) Numerous wrong diverticula of the cleared out colon, which is known as diverticulosis and

(ii) Uncommon genuine single diverticulum of the caecum or climbing colon [2].

Stricture

Diverticular disease including the sigmoid colon has gotten to be a considerable issue for the western world, in any case as it were one third of patients with diverticulosis will show with symptomatic diverticular disease [3]. Rate rates are rising, and the most increment is seen among more youthful populace. Less than ten percent of patients conceded with intense diverticulitis will require agent mediation amid the file hospitalization. Suggestions for elective administration of diverticular malady taking after nonoperatively overseen dynamic infection stay in advancement. Known arrangement of fistulas to empty organs and intestinal luminal stenosis causing expansive bowel hindrance are known sequelae of this administration worldview. Diverticular strictures are frequently found in areas comparative to earlier scenes of diverticulitis, and show decompressed bowel distal to the stricture, and expanded stool filled bowel proximal to the stricture. Diverticular disease positions third among causes of huge bowel obstacle within the western world. It frequently presents with cleared

out lower quadrant torment which can be intense or deceptive in onset. In spite of the fact that the signs for timing of surgical intercession within the non-acute setting proceeds to be in advancement, it is by and large recognized that in patients who are restoratively able to experience surgery, hindrance related to diverticular disease may be a definite sign. An scene of acute diverticulitis can result in both little and expansive bowel obstacle.

A segment of little bowel can ended up thickly followed to the aroused parcel of the colon, provocative mass, or sore itself, subsequently coming about in paralytic ileus. Obstacle of the expansive bowel, be that as it may, is frequently fragmented and more deceptive. It comes about intensely from edema within the colonic divider, colonic spasms, or outside compression from the adjacent canker. Total hindrance can be caused by fibrotic changes and stricture arrangement, ordinarily related with repetitive assaults. Obstacle can result auxiliary to intense irritation, but more commonly is auxiliary to the sequela of earlier scenes of diverticulitis.

Clinical Manifestations

A diverticulum may be a saclike herniation of the lining of the bowel that amplifies through a imperfection within the muscle layer [2]. Diverticula may happen anywhere within the little digestive system or colon but most commonly happen within the sigmoid colon. Diverticulosis exists when different diverticula are show without irritation or indications. It is most common in individuals more seasoned than 80 a long time. A low admissions of dietary fiber is considered a major inclining figure. Diverticulitis comes about when nourishment and microscopic organisms held within the diverticulum create disease and irritation that can hinder depleting and lead to puncturing or boil. It may happen in intense assaults or hold on as a incessant, smoldering disease. A congenital predisposition is likely when the clutter is display in those more youthful than 40 a long time. Complications of diverticulitis incorporate boil, fistula (anomalous tract) arrangement, hindrance, aperture, peritonitis, and hemorrhage.

Diverticulosis

- Habitually, no tricky indications are noted; incessant obstruction regularly goes before advancement.
- Bowel abnormality with interims of the runs, queasiness and anorexia, and bloating or stomach distention.
- Spasms, limit stools, and expanded clogging or at times intestinal hindrance.
- Short coming, weakness, and anorexia.

Diverticulitis

- Acute onset of gentle to serious torment within the cleared out lower quadrant
- Nausea, vomiting, fever, chills, and leukocytosis
- In the event that untreated, peritonitis and septicemia

Diverticula

Diverticula of the colon are procured herniations of mucosa and submucosa through the circular muscle layer at the focuses where blood vessels enter the colonic divider [4]. Diverticula tend to happen in columns on either side of the colon between mesenteric and the individual antimesenteric taeniae. So the entering vessel is in near connection to the neck of the diverticulum. The vicinity of this vessel probably accounts for the propensity of diverticula to drain. The instrument how these diverticula are created is disputable. The followings are ordinarily implicated:

- Abnormal contraction rings shape within the sigmoid colon. With compression of the colonic muscles intraluminal weight goes upto at slightest 90 mm Hg. Compression of these closed sections drive the mucosa to herniate through the weakest spot within the muscles.
- Incessant obstruction with age and weight and acquired inclination may account for this condition.
- Hypertrophy of bowel musculature is frequently self evident in diverticular disease.
- Diet — a moo buildup slim down unquestionably inclines this condition. Typically very rare in Asian nations, though it may be a common illness in Western nations.

Sigmoid colon is the most location included. Sigmoid colon additionally slipping colon are included in 80% of cases. Sigmoid also other colonic locales are included in 95% of cases. Rectum and climbing colon are included in 4% each cases. In almost 5% of cases this illness may be related with gallstones and break hemia (Saint's set of three). Diverticulosis itself is an asymptomatic condition. Its fundamental two complications are dying and aggravation (diverticulitis).

Examination

Within the steady quiet, the work-up ought to start with a intensive history and physical examination [4]. History ought to center on a point by point depiction of stomach torment and any related indications. Based on commonplace introduction, regularly patients have as of now been seen by the referring doctor, and the counsel comes total with labs, a CT filter illustrating the classical appearance, and a "diagnosis." In any case, this is often not continuously the cases; and indeed when displayed like this, it is basic as the specialist to work through the better focuses. Regularly, the stomach torment is centered within the cleared out lower quadrant, but given the potential excess of the sigmoid colon, torment may too be experienced within the midportion of the lower guts and right lower quadrant. Patients often will complain of sickness, diminished craving, and indeed heaving. Regularly amid early stages of the infection handle, discouraging indications are unprecedented, and most patients proceed to pass flatus and may proceed to have bowel developments. Blood within

the stool is regularly not related with diverticulitis and ought to incite thought of alternative diagnoses such as harm or ischemic colitis. It is imperative to inspire any signs and side effects of complicated disease, such as pneumaturia or fecaluria, which are signs of fistulizing infection to the bladder. Essentially, the entry of flatus per vagina is additionally concerning of fistulizing illness to the uterus or vagina. A full therapeutic and surgical history ought to be taken, as well as a survey of all medicines and hypersensitivities.

It is vital to note the number and recurrence of any earlier scenes of diverticulitis and how they were treated. These components may not impact quick administration, but will offer assistance guide the quiet with respect to future elective surgery. All patients ought to be inquired around their most later colonoscopy and in the event that there's any individual history of colon polyps or cancer. In case there's a history of danger, noticing the surgical and adjuvant medications and reconnaissance will offer assistance recognize between analyze of essential diverticulitis versus a repetitive colon cancer. Family history of colon cancer ought to too be famous. Harm of the sigmoid colon can share indications of diverticulitis; hence it is basic to assess patients accordingly. Similarly, a few other pathologies other than cancer may lead to indications comparable to diverticulitis, such as touchy bowel disorder, provocative bowel infection, gynecologic pathologies, a ruptured appendix, or ischemic colitis. A intensive history and physical examination ought to offer assistance depict between these analyze. A physical examination ought to take note of fevers and any varieties in imperative signs. The abdomen ought to be inspected with consideration paid to any peritoneal signs. Patients with mild disease regularly encounter torment within the cleared out lower quadrant with profound palpation. Typically, bounce back delicacy isn't show, in spite of the fact that intentional guarding is common. In more extreme illness, central peritonitis may be display, but may not fundamentally warrant pressing surgical investigation.

Distension of the guts may be a sign of improvement of conceivable obstruction. A rectal examination ought to be performed to assess for any anorectal pathologies as well as assess for sphincter tone. Any troubling comorbid conditions ought to be distinguished which will require consideration and conceivable intercession. Any quiet who presents with uncomplicated diverticular disease may create a smoldering clinical course and require agent intercession; management of comorbid conditions ought to be dealt with in a mold that plans the quiet for surgery on the off chance that required. For case, drugs such as clopidogrel and warfarin ought to be held and supplanted with effectively reversible medicine substitutions, such as heparin, on the off chance that demonstrated. Blood work ought to incorporate a total blood number, comprehensive metabolic board, urinalysis, and coagulation parameters in patients on anticoagulants. In steady patients, CT scan of the midriff and pelvis with verbal and intravenous differentiate ought to be gotten as the starting imaging consider. CT will ordinarily illustrate thickening of the sigmoid colon divider with

related fat stranding but may moreover illustrate other discoveries which will impact decision-making.

Bleeding

Two-thirds of all cases of massive lower G. I. (gastrointestinal) bleeding are due to diverticulosis [5]. Colorectal carcinoma is the following cause of rectal bleeding, but this dying is about continuously mild or moderate. As the diverticuli come out through the hole of the courses within the muscle coat of the colon, dying is very self-evident due to shut nearness of the diverticuli to the supply routes of the colon. Bleeding color to diverticular malady is characteristically sudden, unforeseen and lavish from the onset. This characteristically happens in old individuals with atherosclerosis and/or hypertensive cardiovascular infection. Diverticular infection is the foremost as often as possible cited etiology for lower gastrointestinal dying in which a authoritative source is identified, accounting for roughly 40–55 % of all cases of lower gastrointestinal bleeding within the intense setting [6]. The pathophysiology of dying due to diverticular disease is thought to relate to extending and debilitating of the vasa recta at the location of a colonic diverticulum. Diverticula are ordinarily numerous. Diverticulosis is more commonly found within the cleared out colon, inspecific the sigmoid colon, but, inquisitively, diverticular drains are more commonly localized to the climbing colon. Roughly one in six patients with diverticular malady will involvement a few degree of bleeding. It is worth noticing that lower gastrointestinal bleeding related to diverticular infection can happen inside the setting of acute diverticulitis, but an acute scene of diverticulitis is by no implies a prerequisite to dying at the location of colonic diverticula.

In spite of the fact that it might appear naturally that the provocative changes related with an scene of intense diverticulitis may be anticipated to extend the hazard of intense hemorrhage at the location of a diverticulum, it shows up that most bleeding related to diverticular infection happens exterior the setting of acute diverticulitis. For unclear reasons, the hemorrhage is nearly solely into the bowel lumen instead of into the extraluminal tissues. Patients with dynamic diverticular hemorrhage regularly display within the acute care setting with effortless, frequently brisk hematochezia and, in numerous cases, physiologic prove of critical blood misfortune. The ordinary understanding will be an more seasoned grown-up; diverticular bleeding is exceedingly abnormal in patients beneath the age of 40, but rate rises in relationship with progressing age. Standard utilize of non-steroidal hostile to-inflammatory drugs (NSAIDs) is additionally related with expanded probability of diverticular bleeding. Eventually as it were a minority of patients with diverticular infection will encounter dying, and of those patients who involvement diverticular hemorrhage, suddenly determination of dying will happen in around 75–80 %. Be that as it may, re-bleeding is common. In a few reports, the rate of to begin with re-bleed is evaluated at 25–30 %; once a to begin with re-bleed has happened, the hazard of ensuing re-bleeding ranges as tall as 50 %. The management of diverticular disease is subordinate

on a few variables, counting the seriousness of dying at introduction, whether or not the understanding is encountering a concurrent scene of acute diverticulitis, and the patient's history of past scenes of diverticular bleeding and/or diverticulitis.

History, physical examination, imperative sign, and research facility parameters which might recommend a concurrent diverticulitis incorporate significant abdominal pain, delicacy to palpation, bounce back, or guarding, fever, and leukocytosis. Side effects are commonly, in spite of the fact that not generally, focal to the cleared out lower quadrant. Computed tomography imaging may too uncover fiery changes either localized to the included region of the colon or, within the case of higher-grade diverticulitis, more diffuse stomach inclusion; restricted or generalized pneumoperitoneum may moreover be clear. Larger part of the patients will halt dying suddenly with satisfactory transfusion and strong treatment [5]. A secure non-operative strategy of controlling diverticular bleeding is the specific implantation of vasoconstrictive substances such as vasopressin into the visceral supply route providing the dying location after recognizable proof by specific angiography. In a few patients the dying is controlled and does not repeat. Straightforward barium bowel purge may be utilized as treatment for enormous diverticular bleeding and in numerous patients bleeding was captured. In the event that dying proceeds after correction of hypovolaemia at a rate of more than 500 ml per 8 hours, quick operation is demonstrated. Emergency operation for gigantic bleeding is or maybe troublesome. The most issue is to discover out the location from where the bleeding happens. After investigation, the full colon will be seen enlarged with blood. Colostomy with agent endoscopy may not be able to find the location of bleeding.

In that case one can drain the total colon to clear all blood clots through a rectal tube. A few impediment clamps are connected to disconnect diverse portions of colon. In the event that dynamic bleeding is show that portion of colon will fill up with blood. This parcel ought to be resected with essential anastomosis. Where bleeding point cannot be found appropriately, add up to abdominal colectomy with ileoproctostomy is picking up support as the strategy of choice.

Diverticulosis

Diverticula (particular: diverticulum) are more common within the colon than in any other parcel of the gastrointestinal tract [7]. Their nearness is alluded to as diverticulosis. Most colonic diverticula are wrong, alluding to the reality that they comprise of mucosa and submucosa that have herniated through the muscular layer of the colon divider. Genuine diverticula, which contain all layers of the bowel divider, are uncommon within the colon. Within the United States, the foremost common area for diverticula is the sigmoid colon. The slipping, transverse, and climbing parcels of the colon are included in diminishing arrange of recurrence. Diverticula frame as a result of expanded intraluminal weight acting at zones of relative shortcoming on the bowel divider caused by the blood supply. The vasa recta amplify onto the colon divider, at that point enter the solid layer between

the taenia to supply the mucosa. Subsequently, diverticula are most commonly located within the zone between the mesenteric taenia and the antimesenteric taenia with a skip range on the antimesenteric border. In Western nations, 30%-60% of people create diverticula. There's no sexual orientation inclination. The predominance increments with age, although as of late there has been an increment within the more youthful populace. Ten percent of patients are influenced by age 40 and 65% by age 80. Diverticular infection is more common in Western nations. In Asian nations, there's a prevalence of right-sided diverticula.

The geologic contrasts within the rate of diverticular malady propose that social components may play an etiologic part. The commitment of a moo fiber count calories wealthy in ruddy meat may be a Antimesenteric taeniae Blood vessel entering divider Diverticula Fecalith Circular muscle Mesenteric taenia Mesocolon commonly cited chance calculate but this has not been appeared conclusively. Other detailed components incorporate physical inertia, stoppage, expanding age, smoking, weight, liquor, and NSAID utilize. Patients with Ehlers-Danlos and Marfan syndrome, both of which include irregular connective tissue, are at expanded chance.

Diverticulosis remains asymptomatic in up to 80% of individuals and is more often than not recognized by chance on barium douche x-ray, CT filter, or colonoscopy. A history of clogging is frequently inspired. An abdominal examination may uncover mellow delicacy within the left-lower quadrant, and the cleared out colon is in some cases palpable as a firm tubular structure.

Diverticulitis

Inflammation is the commonest complication of diverticulosis coli [5]. The chance increments as the age progresses. This condition is barely seen underneath the age of 40 a long time. Diverticulitis is more common in patients with broad diverticulosis. Diverticula stay filled with colonic substance. In the event that an inspissated fecal plug discourages the neck of the diverticulum, multiplication of ever display microbes produces aggravation inside the diverticulum. In case the hindering plug moves absent the substance of the diverticulum is released into the colon and irritation dies down. On the off chance that the hindering plug remains in put, irritation spreads to the peridiverticular tissues. Expansion happens longitudinally. Within the starting diverticulitis begins in a single diverticulum and steadily spreads to the others. Clinical presentation may be 'acute' or 'chronic'. The clinical picture of sigmoid diverticulitis exceptionally much takes after that of a ruptured appendix and is frequently called left-sided a ruptured appendix. Whereas diverticulosis is generally an asymptomatic condition, more often than not appearance of side effects recommends that diverticulosis has advanced to diverticulitis. Torment is the foremost imperative indication. It is mild to direct and is felt profound within the cleared out lower quadrant or suprapubic locale. It is usually dull, continuous and throbbing, every so often it may be irregular and cramping. This can be basically due to expanded

intraluminal weight in a disconnected fragment of colon.

Anorexia and gentle sickness are common, but heaving is uncommon. A few alter of bowel propensity is famous — either the runs or obstruction. Moo review fever and gentle leucocytosis are not exceptional. On examination, delicacy on the cleared out lower quadrant is very demonstrative. A delicate mass speaking to the kindled faeces-filled colon may be discernable.

Chronic Diverticular Disease

In spite of the fact that diverticular disease may display with intense abdominal pain or huge bowel hindrance, it most commonly presents in middle-aged or elderly patients with scenes of central or lower left-sided stomach torment, regularly related with or gone before by stoppage [1]. The torment is gloomy or colicky and there may be weeks, months or a long time between assaults. The condition should be differentiated from carcinoma of the colon, touchy bowel disorder and other causes of inflammatory bowel disease. Examination of the abdomen may uncover a few delicacy within the cleared out iliac fossa and, exceptionally every so often, a substantial mass. Rectal examination and sigmoidoscopy are seldom supportive and the diagnosis is made by special investigations.

Aperture

The CT confirms the suspected diagnosis of diverticulitis with perforation [8]. In a few cases where the aperture is contained and the persistent is steady, preservationist administration with intravenous anti-microbials and bowel rest may be embraced. In any case, most cases of perforated diverticular disease require surgical medication as a life-saving measure and the most secure strategy would be a Hartmann operation where the sigmoid colon containing the perforation is resected, the rectum is oversewn and an conclusion colostomy shaped. Formal resection, bowel washout and essential anastomosis with a covering stoma is an worthy elective in those patients without net peritoneal defilement. When consenting a quiet for operation, the require for a creation of a stoma ought to be emphasized. At a few afterward organize the stoma may be turned around but in reality less than half of these patients are appropriate for any assist surgical intercession since of their destitute common state of health. The larger part of patients will have no encourage issues and will not require any encourage treatment. Colonic resection has been pushed for those patients who have had two or more scenes of uncomplicated diverticulitis, but there's small firm prove to bolster this approach. Patients are regularly prompted to follow to tall fiber count calories and maintain a strategic distance from nuts and seeds but there's no prove to propose that this technique will decrease the complications related with built up colonic diverticulae. Elective resection for diverticular disease is rarely indicated. Patients will exceptionally have repetitive assaults and require elective or crisis surgery. Signs for elective surgery

are stricture arrangement, colovesical fistula or repetitive assaults of diverticulitis. Signs for crisis surgery are punctured diverticular cancer or puncturing causing purulent or fecal peritonitis.

Conclusion

Diverticular disease is likely caused by increased pressure within the colon that forces pockets of intestinal lining through the muscle that surrounds the outside of the intestine. This increased pressure is probably caused by constipation due to a low-fiber diet. People who consume too little fiber and not enough vegetables and fruits in their daily diet have a higher chance of getting diverticular disease. As get older, the chance of developing the disease increases. The treatment of diverticulitis depends on the severity of the clinical picture, the quantitative values of the inflammatory parameters and the ultrasound or CT findings. Sometimes, if the inflammation is mild, antibiotic treatment is applied at home with a special dietary regimen, rest and abundant rehydration, however, if the inflammation is advanced with a more severe clinical picture, hospital treatment with intravenous antibiotics is also required. In severe forms of diverticulitis with developed complications, hospital treatment with surgery is also necessary.

References

1. Browse NL, Black J, Burnand KG, Thomas WEG (2005) *Browse's Introduction to the Symptoms & Signs of Surgical Disease, Fourth Edition*, CRC Press, Taylor & Francis Group, Informa business, Boca Raton, USA, pp. 458-459.
2. (2010) "Brunner and Suddarth's Textbook of Medical-Surgical Nursing, Twelfth Edition" (Wolters Kluwer/Lippincott Williams & Wilkins, Philadelphia, USA, pp. 275-276.
3. Kreiner LA (2007) "Large Bowel Obstruction" In: Moore, L. J.; Todd, S. R. (Eds.), "Common Problems in Acute Care Surgery, Second Edition", Springer International Publishing AG, Cham, Switzerland, pp. 330-331.
4. Bhamra AR, Yeghians A, Steele SR (2019) "Diverticulitis" In: Brown, C. V. R.; Inaba, K.; Martin, M. J.; Salim, A. (Eds.), "Emergency General Surgery - A Practical Approach", Springer Nature Switzerland AG, Cham, Switzerland, pp. 268-269.
5. Das S (2010) *A Concise Textbook of Surgery (6th Edn.)*, Somen Das, Kolkata, India, pp 931-933.
6. Weitz A, Vargo D (2017) Lower Gastrointestinal Bleeding. In: Moore, L. J.; Todd, S. R. (Eds.), *Common Problems in Acute Care Surgery (2nd Edn.)*, Springer International Publishing AG, Cham, Switzerland, pp. 341.
7. Cohan J, Varma MG (2015) "Large Intestine" In: Doherty, G. M. (Edt.), "Current Diagnosis and Treatment - Surgery (14th Edn.)", McGraw-Hill Education, New York, USA, pp. 712.
8. Mirbagheri N, Skinner S (2012) "Lower abdominal pain in a 77-year-old woman" In: Devitt, P. G.; Mitchell, J.; Hamilton-Craig, C. (Eds.), "Clinical Problems in Medicine and Surgery (3rd Edn.)", Churchill Livingstone, E Elsevier, Edinburgh, UK, pp. 116.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2023.52.008217

Siniša Franjić. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>