

Treatment of colonic diverticular disease: Breaking with myth, paradigms and traditions

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It is really a challenge to respond to the request to share my knowledge and experience about such an apparently simple and common topic as treating diverticulitis. However, to be sincere, this is a tremendously controversial issue. The controversy begins with the name diverticular disease. After 60 years (1), can we really call a condition that affects 50% to 60% of the people an illness? Nevertheless, it is very common that a patient who undergoes a routine test such as a CAT scan or colonoscopy is erroneously diagnostically labeled as having uncomplicated diverticular disease.

Most postulates are born from consensus, rather than from the large amounts of highly reliable evidence that we would like to see. In fact, they are not even the products of panels of experts. More than this, we have inherited paradigms regarding this entity that are still believed and practiced. For example, after two episodes of diverticular disease a patient is referred for surgery. "I am going to operate to avoid the necessity of a colostomy in the future." (This is a phrase which confirms any patient's worst fears.) Another example is the notion that every young patient with diverticulitis must undergo surgery. And, to be precise, there is a balance which the clinician or surgeon can bend at a whim, when will the majority of patients who end up having colostomies have them? After the second episode? The third? Or maybe the fourth? What is it that we want to prevent?

If the patient is elderly, this could be a criterion for surgery. Being in good health is better for elective surgery, but if the high perioperative risks are taken into account, maybe surgery is not the best option. Who should tip this delicate balance one way or the other?

In this piece I want to touch upon themes which continue to be controversial, which should be well known to all of those who have to manage this pathology.

The simple fact of finding diverticula in an examination is called DIVERTICULOSIS (2). As everyone knows, diverticula must be present in the entire colon, but especially in the left colon. In Latin America the process which proceeds from inflammation through microperforations and onto the formation of masses of hardened fibrotic tissue with focal abscesses occurs almost exclusively in the sigmoid colon. Bleeding, the second field of interest, can occur in any part of the colon where there are diverticula. The most classical texts speak of diverticula in the right colon being more prone to bleeding than those in other areas (3). For some not very clear reason, patients who have episodes of inflammation tend to become inflamed again later, while those with a history of lower digestive hemorrhaging tend to have recurrent bleeding rather than inflammation.

Faced with a clinical picture of inflammation it is clear that the clinical evaluation will be the basis of initial patient management, followed by a series of examination to corroborate the clinical impression of diverticulitis. Today it is clear that the diagnostic tool of choice in the emergency room is a CAT scan with contrast agents. It allows diagnosis, including classification according to the Hughes and Hinchey systems which have been adapted to this technology to maintain their validity (4). Here, the term complicated diverticular disease should be mentioned. This expression is routinely used by physicians, surgeons and internists as a diagnosis for patients who come to the emergency room. However, the World Gastroenterology Organization (WGO) reports its consensus regarding a practical form that has a good clinical basis. Diverticulitis diagnosed by a CAT scan, including all of the possible alterations of the sigmoid fat, of phlegmons, and of diverticular masses of hardened fibrotic tissue with focal abscesses, should be called:

Simple diverticulitis (2)

The term complicated diverticular diseases should be reserved only for those episodes in which there is evidence of pericolic abscesses, pelvic collections of liquid, perforation, stenosis, fistulas and/or intestinal obstructions.

The majority of patients will be diagnosed with simple diverticulitis. Medical management of these patients will consist of antibiotics (based on theories of microperforation), fasting, liquid diets, and inpatient or outpatient treatment depending on the criteria of the medical group. The majority of patients will progress favorably for a later elective study. Patients with acute abdominal pain, abscesses, other serious complications, and or a deteriorating clinical picture will be evaluated for surgery which will almost certainly lead to an operation. This is also an area of controversy.

If we are influenced by theories of inflammatory compromise of the diverticular wall as an etiology, the use of the antiinflammatory mesalazine has a role to play in the management of this entity, in the prevention of recurrences, and in the prevention of segmental colitis associated with diverticulosis (SCAD) (5).

However, I would like to dip into a major controversy in surgery: upon admission, which patients should we recommend surgery for. The history of this condition has many paradigms that are still followed. One example is the classic response to a perforation which has occurred as the result of surgery; sigmoidectomy with a Hartmann colostomy (closure of the rectal stump). This response is still employed by the majority of medical centers, and is considered to be "conservative conduct" (6). Two points need to be made

regarding this issue. Part of the motor of this problem is at the juncture of the sigmoid colon and the rectum, which is surely the zone with the greatest pressure and the smallest diameter of the colon. Urgent surgery should include resection at this level. All those who frequently perform closures of colostomies, as well as those who refer their patients for this procedure, must do a preoperative study. These studies frequently find rectal stumps with residual sigmoid tissue.

Still, this point may be so debatable because some of paradigms of surgery have arisen because one of the causes for failures of anastomoses is shock, probably with contamination. Nevertheless there are some interesting reports from groups performing primary anastomoses. These include some which promote the idea that of anastomosis with protective stoma (extrapolating from a concept of rectal surgery). Their results are worthy of attention (7). They include something which would have seemed incredible in the past: faced with a patient with complicated diverticular disease with a perforation, the initial approach was laparoscopically drain the collected liquid and/or any abscess, suture the primary perforation, and place drains for medical management with antibiotics. This allows for a second elective attempt at segmental resection and anastomosis, avoiding the need for the patient to ever have to experience a colostomy. This sounds interesting, and is part of what is being done today, although it still requires further evaluation (8). As can be seen, classical urgent care can change, and indeed is changing before our very eyes.

Another point to be discussed is the patient who responds to medical treatment and is discharged. In our social security system there would be no argument over the options of inpatient or outpatient care. However, we know essentially that, while a large percentage of the population has diverticula, only a small number will ever require hospitalization. Now we are beginning to understand that it is not the same to have various cases of simple diverticulitis as it is to have one real case of complicated diverticular disease.

How should we study our patients? In this theater radiography with barium enemas and the colonoscope have the starring roles.

I think it depends upon the clinical context. In everyone's minds there will always be the thought that this hardened and inflamed tissue diagnosed in the emergency room does not hide an unidentified neoplasia. This is the reason my choice is colonoscopy 6 weeks after the initial episode. Six weeks anecdotally responds to the normal time needed for the healing process. Nevertheless radiography with barium enemas have their place, although maybe not as in the past when they were used to discover the quantity and locations of diverticula. Now, they are useful for evaluating the stenoses and fistulas which are the consequences generated by this disease. So, in the end, the answer to the question may

be that we should use both colonoscopies and radiography with barium enemas to study these patients (9).

The decision to operate

The decision to operate is the great problem with this condition. We have inherited the taboo of “two episodes and then surgery”. We have played with the term, applying it to some, while there are others, who, with a little common sense, change. But, we were really not so wrong.

It's clear in the light of 2010 that patients should be managed selectively and electively. Patient histories are individual. One patient might have one, two, three or four episodes of simple diverticulitis and not ever necessarily need surgery. On the other hand the decision might be made to perform elective surgery on another patient with only a few episodes, and who never was asymptomatic or suffered from chronic diverticulitis. There is a slowly developing tendency to individualize patient management, a tendency in which the number of episodes suffered is not longer the key factor in making a decision (10).

What appears to be clearer are those cases of patients who have had only one episode of complicated diverticular disease, understood in current terms defined ultrasonically by the presence of abscesses, stenoses, perforations and prior drainages. These patients are candidates for elective surgery following initial medical management (11). Pericolic abscesses are collections which are susceptible to medical management and intervention, including by fine needle aspiration guided by sonography, CAT scan, or even laparoscopically. The extension of the resection is another broken paradigm.

It is difficult to determine which segment is responsible in cases of lower digestive tract bleeding and hemorrhaging, but thanks to laparoscopy we know which segment to resect when there is inflammation. In the majority of cases the inflamed segment is in the sigmoid colon requiring sigmoidectomy and resection of part of the descending colon. The presence of additional proximal diverticula does not imply more extensive resection. What determines an extension of the resection to a left or nearly complete colectomy, is when the surgeon encounters in adequate quality of the walls of the colon because of hypertrophy or muscular thickening. Today laparoscopic surgery is the method which is most frequently indicated for elective resections. With

this method the distal resection should extend beyond the juncture between the sigmoid colon and the rectum (12).

I have touched upon various concepts and well known classical principles which many continue to maintain. This has obliged me to make a systematic review of the literature to verify concepts and to reaffirm the new currents. Hopefully there will be some general uneasiness generated by this academic reflection based on my ten years of experience working in the field of colorectal surgery.

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