

Clin-IQ Project

Clinical Question: Are antibiotics helpful in the treatment of non-necrotizing ischemic colitis?

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Answer: Inconclusive

Level of Evidence for the Answer: C

Search Terms: prophylactic antibiotics for ischemic colitis, treatment of severe ischemic colitis.

Date Search was Conducted:

11/23/12

Inclusion and Exclusion Criteria:

Inclusion Criteria: Leukocytosis, fever, superior and inferior mesenteric arteries

Exclusion Criteria: inflammatory bowel disease, crypt abscesses, antibiotic associated colitis

Summary of the Issues: (word count=200-300)

Vascular occlusive disease of the mesenteric vessels is relatively uncommon but very important to diagnose given the potentially dangerous consequences. It is more common in patients over 60 years of age and three times more common in women than men [1].

The mesenteric arterial circulation is rich in its collateral network of vessels. It is broken up into three main arteries. The celiac, superior mesenteric, and inferior mesenteric arteries which all branch off of the descending aorta. Regulation of blood flow is modulated by hormonal and neural stimuli.

The mechanical causes of visceral ischemia can be categorized into three main groups.

Acute mesenteric ischemia which can be embolic or thrombotic, chronic mesenteric ischemia, and nonocclusive mesenteric ischemia. This review evaluates antibiotic use in non-necrotizing ischemic colitis by either of these mechanisms.

Treatment is case by case and mostly dependent on the severity. A large number of cases are transient and resolve spontaneously without any intervention. Over three-fourths of cases are the milder, non-gangrenous form, which is temporary and rarely causes long-term complications such as persistent segmental colitis or strictures [2]. Very mild cases usually can be managed on an outpatient basis with liquid diet, broad-spectrum antibiotic and 24 hours follow up. In contrast, gangrenous colonic ischemia, accounting for about 15% of cases, can be life-threatening [2]. Hospitalization is required for more severe cases. In the absence of colonic gangrene or perforation, general measures of supportive care are recommended [1]. Patients should be placed on bowel rest and given intravenous fluids.

Summary of the Evidence: (word count=500-700)

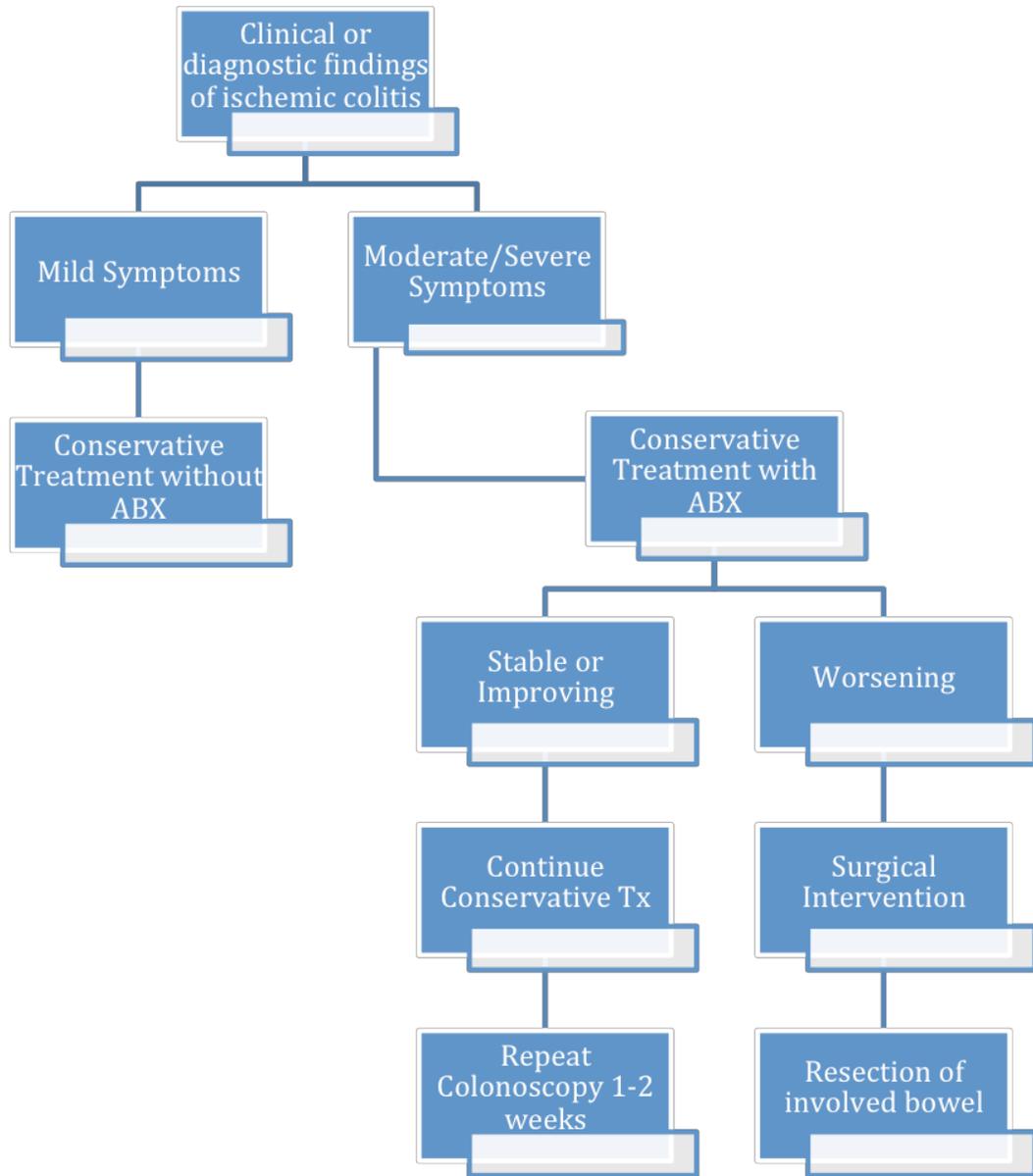
One retrospective review (n=47) examined patients with non-occlusive ischemia of the large intestines over a period of seven years [4]. The study found that overall 15 out of 16 patients were successfully treated without surgery and with conservative management. Conservative management consisted of bowel rest and broad spectrum antibiotics. One of the patients in the conservative management group died. Of the 47 patients, 31 did require intestinal resection with 14 having enteric continuity restored. Mortality was 29% in the operative management group, 9 of 31. The authors of this article admit that literature comparing patients with ischemic colitis treated surgically vs. conservatively is sparse. This review focused more on the surgical aspect of this disease. The authors feel that most course may be self-limited and that patients at risk such as the elderly, diabetics, or those who have had recent aortic surgery or episodes of hypotension are at the greatest risk. Therefore, the surgical intervention threshold

should be lower in these groups. The authors feel that conservative treatment can be safely utilized in patients with less co-morbidities, a shorter duration, within 24 hours, of symptoms and without hemodynamic instability or significant leukocytosis. Conservative management would include bowel rest and broad spectrum antibiotics [1].

In another retrospective study (N=841) ten different articles were reviewed. Most of these patients were women. All of the articles seemed to have concluded that surgery was indicated for anyone who had peritonitis signs or hemodynamically unstable. The overall results showed mortality of 22%, with a range from 6 to 53% [3]. There was however very wide range from 0% mortality in some cases to 75% in cases requiring surgery.

The conclusion of the study indicated there is no objective evidence for the value of antibiotics, bowel rest, intravenous water and electrolytes and total parenteral nutrition over enteral feeding [3]. In conclusion, there is a lack of information on the management of ischaemic colitis. Only surgery in peritonitis seems to be generally agreed between the groups. Conservative treatment for the remaining cases is used, and the role of surgery in this group of patients is not defined.

Figure 1



Conclusion: (word count=50-100)

Overall management is dependent on the severity of the disease. In a large portion of patients with acute mild disease, conservative management is the treatment of choice with a mortality rate of less than 50%. In moderate to severe cases, surgical treatment yields mortality of around 60%. In most articles reviewed, it is agreed that surgery is indicated for patients with signs of peritonitis or who are hemodynamically unstable, while less acute cases should be managed conservatively [3]. Antibiotics however had no evidence for or against decreasing mortality in rats. Given that there are no studies with human subjects we have concluded that antibiotic use in non-necrotizing ischemic colitis is inconclusive whether antibiotics should or should not be used as part of conservative management of non-necrotizing ischemic colitis.

Reference List (1-2 review articles, 2 evidence articles):

1. Ischemic colitis: Clinical practice in diagnosis and treatment. Angeliki Theodoropoulou,

- Ioannis E. Koutroubakis. World Journal of Gastroenterology 2008; Vol 14: 7302-7308.
2. Clinically Approach to Colonic Ischemia. Kareem Elder, Bret A. Lashner, Firas Al Solaiman. Cleveland Clinic Journal of Medicine 2009; Vol 76: 401-409.
3. Systematic Review on the Treatment of Ischaemic Colitis. R. Díaz Nieto, M. Varcada, O. A. Ogunbiyi and M. C Winslet. The Association of Coloproctology of Great Britain and Ireland 2011. Vol 13: 744-747
4. Effects of Enteral and IV Antimicrobial Treatment on Survival Following Intestinal ischemia in Rats. Andrzej Plonk, Jerome Schentag, Sol Messinger, Martin Adelman, Katryn Francis, James Williams. Journal of Surgical Research 1989. Vol 46, Issue 3: 216-220