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This Week's Citation Classic

Marston A, Pheils M T, Thomas M L & Morson B C. Ischaemic colitis. *Gut* 7:1-15, 1966.
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This paper brings a conceptual unity to the clinical problems of ischaemia attacking the gut and describes the three syndromes which may occur. On the basis of postclinical and experimental work, a classification of ischaemic colitis into gangrenous, stricturing, and transient forms is proposed. It is suggested that ischaemia of the colon, occurring in the same age group and from the same causes as myocardial infarction, accounts for certain cases of 'segmental' colitis, particularly those involving the splenic flexure. [The *SCI*® indicates that this paper has been cited in over 285 publications since 1966.]

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"In 1951, when I was an 'intern' in a small hospital on the periphery of London, I admitted a middle-aged woman with acute abdominal pain, who died two days later, in spite of surgery, from a mesenteric embolus. What puzzled me at that time was that although this was an accepted cause of death, I could not see precisely why she had died, because at autopsy her intestine was perfectly viable. It occurred to me that some physiological process must be at work, other than simple necrosis and peritonitis. This idea nestled in my mind for a number of years, when I encountered another case of intestinal ischaemia, but this time of a different nature. The patient was a 47-year-old man who presented with what I thought was a peridiverticular abscess. When I (by now a senior resident) operated upon him, I found a long length of inflamed colon which was not obviously necrotic, and I constructed a proximal colostomy. A few weeks later, barium studies showed that the lumen of the intervening bowel had completely disappeared. Obviously no closure was possible, so I resected the abnormal area and joined up the two ends. The pathologist reported that this was an infarction of the colon, with a thrombosed mesenteric artery.

"On the basis of these two cases and my study of the literature, I became convinced that there must be abnormalities in the intestinal circulation which could result in degrees of infarction similar to those seen in the brain, myocardium, and kidneys.

"In the early 1960s, an opportunity presented itself to study this problem at Harvard Medical School, with such famed figures as Francis Moore and Richard Warren. The year in Boston was spent in an experimental study of the ischaemic small bowel which was published in two papers in the *Annals of Surgery*.[1,2] My interest in the colon persisted, however, and it was borne in upon me that my case of spontaneous colonic ischaemia was similar, both clinically and radiologically, to those seen following cardiac and vascular surgery and that many patients with obscure colonic disease in fact had infarcts, similar to those appearing in other circulatory territories. This prompted a critical review of our experience in London, at St. Thomas's Hospital and St. Mark's Hospital, with the cooperation of Basil Morson, director of pathology at St. Mark's. From this was born the concept of 'ischaemic colitis,' which was a new category of colonic disease, clinically and pathologically distinct from other forms of inflammatory bowel disease such as ulcerative colitis and Crohn's disease. The paper was published in *Gut* in 1966.

"The study was based on 16 patients, but our experience is now of nearly two hundred, and the original classification, and suggested management of the condition, have changed. In particular, the concepts of 'transient' and 'stricturing' disease are misleading, and it is better to think of colonic gangrene on the one hand (often with no vascular occlusion) and (nongangrenous) ischaemic colitis on the other. Subsequent authors have confirmed this.[3-5]

"This paper has been highly cited because it was the first attempt to categorize and describe graduated colonic infarction and related the fields of vascular and intestinal surgery in an original way. Like all 'classical' papers, it has been frequently misquoted and misapplied and rereading it now, I would disagree with much that it says. Nonetheless, it remains true that in 1966 the concept of ischaemic disease of the colon was new, and one which caused people to reexamine accepted models, and I am pleased to think that the work should still be quoted."

1. **Marston A.** Causes of death in mesenteric arterial occlusion. I. Local and general effects of devascularization of the bowel. *Ann. Surg.* 158:952-9, 1963.
2. ----------. Causes of death in mesenteric arterial occlusion. II. Observations on revascularization of the ischemic bowel. *Ann. Surg.* 158:960-70, 1963.
3. **De Dombal F T, Fletcher D M & Harris R S.** Early diagnosis of ischaemic colitis. *Gut* 10:131-4, 1969.
4. **Boley S J, Schwartz S S & Williams L F, Jr.,** eds. *Vascular disorders of the intestine.* New York: Appleton-Century-Crofts, 1971. 657 p.
5. **Wittenberg J, Athanasoulis C A, Williams L F, Jr., Paredes S, O'Sullivan P & Brown B.** Ischemic colitis: radiology and pathophysiology. *Amer. J. Roentgenol.* 123:287-99, 1975.