

Neostigmine and Anastomotic Disruption

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Neostigmine is an anticholinesterase agent used to reverse the effects of nondepolarizing muscle relaxants. A study of two comparable groups of patients, out of a total of 87 undergoing total colectomy and ileorectal anastomosis for ulcerative colitis, revealed that when neostigmine was administered during anaesthesia, the post-operative leak rate from the anastomosis as revealed by routine barium enema three weeks post-operatively was 36%. In the group not receiving neostigmine, only 4% leaked. The most likely explanation would seem to be that neostigmine-induced contractions of the gut caused excessive traction on the anastomotic suture line. Direct observation of one case during surgery revealed that the routine dose of atropine, administered with the neostigmine, did not abolish vigorous intestinal peristalsis, and disruption of the anastomosis was seen to occur.

Infection - the Cause of Anastomotic Breakdown: An Experimental Study

by P R Hawley FRCS
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Factors altering the healing of anastomoses in the descending colon of rabbits have been investigated. Anastomoses in which bacteria and foreign particulate matter have been placed around the suture line resulting in pericolic abscess formation are weaker by bursting-pressure measurement than normal anastomoses and those constructed in animals with associated hypovolaemic shock or severe trauma.

This weakness is the result of a decrease in the amount of mature collagen in the submucous layer of the colon. Lysis of collagen is produced only by the action of a specific enzyme called collagenase, which is found in significantly larger amounts in the colon than other parts of the gastrointestinal tract. This production is increased post-operatively and enhanced in the presence of pericolic infection.

Operative procedures which result in increased peritoneal soiling or prevention of normal peritoneal decontaminating processes will result in colonic anastomoses prone to dehiscence.

Pilonidal Sinus: Excision and Closure

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Ninety unselected cases of pilonidal sinus, all treated by excision and careful primary suture have been reviewed. The method used was that of Oldham (Oldham 1941). Table 1 shows the main results and compares them with those of others using this method.

Table 1
Results compared with other series

Author	No. of cases	Failure of primary healing (%)	Recurrence rate (%)	Time in hospital (days)
Oldham (1941)	117	1	0	
Close (1955)	174		24	17.6
Hamilton (1963)	393	15	25	
Gabriel (1963)	89		4	
Novotny (1964)	45	4	11	25
McCaughan (1965)	275	19	4.7	23
Goligher (1967)	36	50		
Average figures	1,129	16	16	21.7
Present series	90	11	11-20 ●	16.8

● The follow-up attendance was too small for accurate conclusions about recurrence

With this method, patients left hospital in about two weeks, completely healed. All recurrences were treated the same way. Patients with recurrence required an average of 2.4 admissions with a total hospital stay of 44 days - still less than the time taken for healing to occur by second intention.

REFERENCES

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Goligher J C (1967) *Surgery of the Anus, Rectum and Colon*. London; p 254
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McCaughan J S (1965) *Surg. Gynec. Obstet.* 121, 316
Novotny G M (1964) *Med. Serv. J. Can.* 20, 352
Oldham J B (1941) *J. roy. nav. med. Serv.* 27, 34

The following paper was also read:

Anastomotic Dehiscence after Anterior Resection of Rectum and Sigmoid Professor J C Goligher

- REFERENCE
Goligher J C, Graham N G & de Dombal F T (1970) *Brit. J. Surg.* 57, 109