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The Nature and Cause of Hæmorrhoids

by W H F Thomson[1] MS FRCS
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Presented is an anatomical and clinical study of the anorectum with special reference to the nature of hæmorrhoids. Material for the investigation was provided by 95 cadaveric anorectal specimens, 25 hæmorrhoidectomy specimens, 80 patients with prolapsing piles, and 42 normal controls.

The main findings were as follows: the anal submucosa is not a uniform layer. It is thickened into 3 main cushions, more or less discrete, which occur regularly in the left lateral, right anterior and right posterior positions, each cushion extending above and below the pectinate line. Because of them, the anal lumen appears on proctoscopic examination as a triradiate slit. The cushions are composed of a plexus of veins supported by a stroma of smooth muscle and elastic tissue, and have a highly developed arterial supply. Direct arteriovenous communications were found in their substance. The veins in both infants and adults are a complex (ending at the anal verge) of discrete dilatations so that a mechanism is available whereby great changes in the size of the cushions can take place. The finding supports the concept that the anal submucosa assists in anal closure. The smooth muscle component is derived mainly from the internal sphincter but partly from the conjoined longitudinal muscle. Its arrangement is such that its contraction would cause a flattening and bracing of the cushions in the anal canal.

Although hæmorrhoids, in the 80 patients examined, occurred mainly in the right anterior, right posterior and left lateral positions, their arrangement was found to have nothing to do with the branching behaviour of the superior rectal artery (which exhibited a great variety of patterns).

Another belief dispelled was that piles progress through a stage when they bleed to one when they prolapse. Of the 66 consecutive patients questioned, the great majority were certain that prolapse had been the first symptom.

The histological appearance of hæmorrhoidectomy specimens was similar to that of normal anal cushions obtained from cadavers, any differences being readily attributable to the effects of the trauma or prolapse. One such was capillary dilatation and hyperplasia in the lamina propria – seen in some specimens. It seems they are the usual source of bleeding in piles, the venous dilatations lying deep to the muscularis mucosæ. Finally a comparison of bowel histories showed a much greater prevalence of constipation and straining in patients with hæmorrhoids than in those without.

The normal anal canal, then, is lined by cushions of specialized tissue in the same positions that piles occur. The cushions are supported by a strategic arrangement of smooth muscle and elastic tissue and the evidence suggests that piles are merely the outward manifestation of their downward displacement. They would be more likely to be pushed out by a large hard stool which perhaps accounts for their association with constipation. Straining might cause suffusion of the venous dilatations with resultant swelling of the cushions and increased likelihood of their expulsion on defæcation.

Such a concept has implications for the management of hæmorrhoids. It means, since the cushions assist in continence, that piles should be treated as conservatively as possible. If bleeding is the main complaint, the responsible pile may be recognized by its inflamed appearance or friable surface and perhaps most appropriately dealt with by elastic band ligature. If prolapse needs treatment, redundant tissue only should be excised. The operation should not only be considered 'over' when 'it looks like a clover'; if only one cushion is prolapsing, then it is the only 'pile' which needs excision. If the patient's main complaint is of discomfort on defæcation or difficulty with replacing prolapsed piles then forcible manual dilatation of the anus may be best.

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Apart from being due to another pathology, bleeding from the anal canal in the absence of demonstrable piles may be due to prolapse of the lax upper half of the cushion over the pectinate line (where the mucosa is tightly pinned down) during defæcation, with resultant 'nipping'. Alternatively, being highly vascular, the anal mucosa is likely to bleed when traumatized by hard fæces. To call such a state of affairs 'first degree piles' implies an inexorable progression to 'third degree' ones – an unnecessary and misleading label.

Results of Resection for Diverticular Disease and its Complications [*Abridged*]

by J A Rennie MB, M C Charnock MB, J M Wellwood MA FRCS and I P Todd MS FRCS
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Between 1965 and 1972, 88 patients were treated by colonic resection for diverticular disease at St Bartholomew's Hospital, 49 underwent surgery for complicated disease; the commonest cause was an abdominal or pelvic mass (33%), with fistula, perforation, intestinal obstruction and hæmorrhage, occurring with equal frequency and accounting for the remainder. The incidence of postoperative complications was high, with 3 deaths, 11 fæcal fistulæ, 4 wound dehiscences and 3 pelvic abscesses. However, only 23% remained symptomatic after resection.

These results contrast with those obtained following colonic resection in 39 patients with uncomplicated diverticular disease. All but 3 had complained of both abdominal pains and abnormal bowel habit for periods up to thirty years before resection. Complications were observed less frequently in the postoperative period, but the operation cured only 14% of patients of their symptoms.

This confirms that the results of surgical operation for complicated diverticular disease are good, but that resection of the left colon to cure symptoms of uncomplicated diverticular disease is often an unsatisfactory procedure. Was the original diagnosis wrong? Were symptoms wrongly attributed to diverticula? Is localized resection an adequate treatment for the uncomplicated disease?

The following paper was also read:

Anal Pressure and Motility Before and After Dilatation for Hæmorrhoids
Brian D Hancock FRCS
(*Christie Hospital and Holt Radium Institute, Withington, Manchester, M20 9BX*)

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Meeting 23 October 1974

The following cases were shown:

Liposarcoma of the Rectum
Mr J F McPartlin (for Mr Alan Parks)
(*The London Hospital, London E1*)

A Successful late Sphincteroplasty for Rectal Agenesis
Mr C G Marks and Mr R H S Lane (for Mr Alan Parks)
(*St Mark's Hospital, London EC1*)

Rectal Prolapse and Ehlers-Danlos Syndrome
Mr B D Hancock (for Mr Alan Parks)
(*St Mark's Hospital, London EC1*)

Pericarditis in Association with Ulcerative Colitis
Dr E T Swarbrick, Dr N J Bateman and Dr J E Lennard-Jones
(*London Hospital, London E1 2AD*)

Multifocal Colonic Carcinoma Complicating Crohn's Disease
Mr M R B Keighley, Dr H Thompson, Dr W T Cooke and Mr L Alexander-Williams
(*The General Hospital, Birmingham, B3 6NH*)

The Association of Jejunal Carcinoma with Burnt-out Crohn's Disease
Mr A V Pollock
(*Scarborough Hospital, Yorkshire*)

Acute Pseudo-obstruction of the Colon with Cæcal Perforation
Mr N V Addison
(*Bradford Royal Infirmary, Yorkshire*)

Malabsorption: ? Following an Abdominal War Wound
Mr Roger Grace
(*The Royal Hospital, Wolverhampton, WV2 1BT*)