

rarity of the syndrome is stressed and reasons for this are suggested.

The poor general condition of the patient often causes difficulties in diagnosis; the need for pre-operative rehabilitation is emphasized.

The biochemical basis is discussed and the relationship between anomalies of serum electrolytes and the electrolyte composition of rectal secretions. Reference is made to recent experimental work concerning the passage of electrolytes through the normal colon and in villous tumours and its importance in the aetiology of this syndrome.

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Changes in General Condition during Evolution of Villous Tumours of the Rectosigmoid

[*Les modifications de l'état général au cours de l'évolution des tumeurs villoses du rectosigmoïde*]
Certain nonspecific changes in the general condition of the patient may complicate the evolution of villous tumours of the rectosigmoid, analogous to those observed in any chronic lesion of the digestive canal. Others which are more characteristic may be explained by gross disturbance of hydroelectrolytes, consequent upon passage of possibly massive amounts of viscid material. This latter condition (88 cases of which are analysed) supervenes after a long period of neglected intestinal disturbance. Often initiated by an extraneous insult, it is of acute onset and may be clinically very deceptive. Disturbances of consciousness, muscular paralysis, and dehydration with collapse are the chief signs, while from the biological viewpoint one is struck by the importance of losses of Na, Cl and particularly K, and by the considerable rise in azotæmia. The exact diagnosis of the intestinal origin of this syndrome is often reached only with difficulty and after delay. Rehydration and administration of large amounts of Cl, Na and K are the basis of emergency medical treatment; excision of the tumour is the second need, for only this can prevent recurrence of the disturbance.

The physiopathology of these accidents is now completely understood. It is evident that the abundance of the intestinal secretions is the essential cause; particularly with extensive villous tumours situated low down, these disturbances may be extremely intense. It is not, properly speaking, due to an upset in the composition of the liquid exuded by the tumour, but principally to a massive increase in the quantity of liquid thus eliminated.

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A Technique for Excising Extensive Villous Papillomatous Change in the Lower Rectum

Treatment of an extensive villous papilloma of the rectum is a difficult problem. The tumour may form an extensive carpet occupying a considerable proportion of the rectal ampulla or occasionally even encircling it completely.

For a large tumour which does not completely encircle the rectum, there is a relatively simple method of removal. The principle depends on the

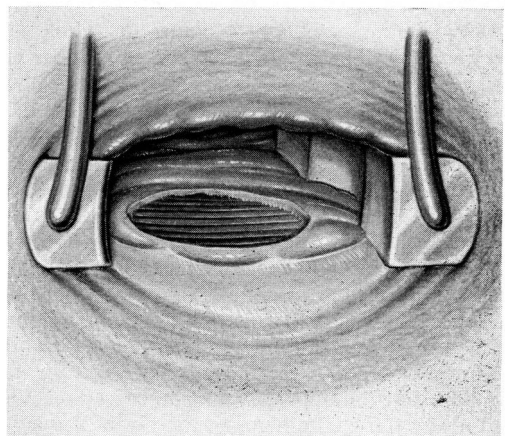
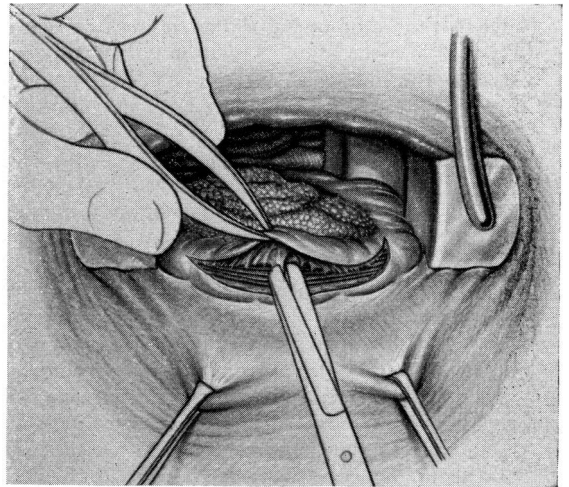


Fig 1 After insertion of anal retractors the submucosa under and around the tumour is infiltrated with isotonic saline containing 1/300,000 of adrenaline. An incision is made around the tumour and the submucosa is dissected free from the circular muscle beneath it. (Reproduced from Parks (1966) by kind permission)

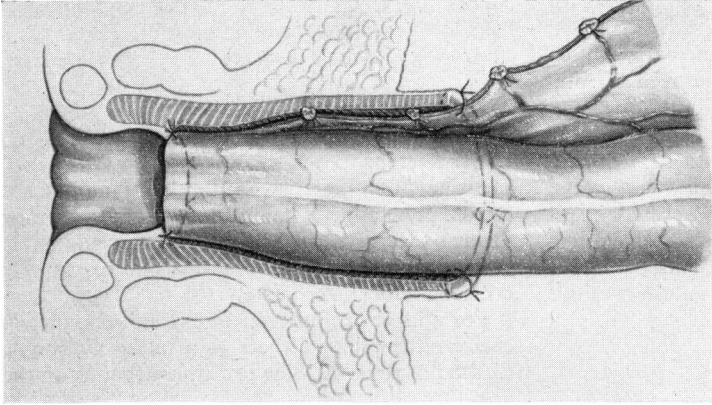


Fig 2 In the case of a large encircling villous papilloma the whole of the mucosa of the rectum is removed from the dentate line upwards to about 12 cm. The abdomen is then opened and the rectosigmoid mobilized. The bowel is transected through the denuded area and if there is residual tumour above this point a segment is resected. The colon is then drawn down through the denuded rectum and sutured to the dentate line (Reproduced from Parks (1966) by kind permission)

fact that the submucosa of the rectum is an easily distensible space. Fluid is injected into this space, raising the diseased mucosa off the circular muscle. The tumour is then removed quite easily by dissection in the submucous plane (Fig 1).

An anorectal retractor is inserted into the rectum and opened to expose part or all of the tumour. Isotonic saline with or without a minute concentration of adrenaline (1 part in 250,000) is injected into the submucosa. An incision is made in the normal mucosa surrounding the tumour and about 1 cm from it. Using scissor dissection the mucosa is elevated off the circular muscle. The whole of the tumour is removed in one piece if not too large, but it may be necessary to move the retractors round the rectal wall to expose a fresh portion for excision as a separate piece. Even large bare areas of rectal wall will heal with little trouble and no suturing of mucosa is required.

If the villous papilloma occupies the whole of the rectal wall a more extensive procedure is required but it is never necessary to remove the rectum and do a colostomy for a benign tumour. A similar procedure is carried out except that in this case the lower 8 cm of rectum is completely denuded of abnormal mucosa. If nothing further were done a stricture would result, so the rectum must be re-lined with epithelium. Anorectal continence does not depend on the presence of rectal mucosa, the essential factor is the rectal muscle wall (Parks *et al.* 1962). After denuding the rectal ampulla an abdominal incision is made and the upper rectum mobilized. The rectum is transected at the upper level of mucosal excision and if any tumour remains in the bowel above it is resected. Sigmoid colon is then drawn down through the denuded rectum and sutured to the squamous epithelium of the mid-anal canal (Fig 2). A few sutures are placed between the muscularis of the cut end of the rectum and the colon. The new rectum has two muscle coats and an

epithelial lining from the colon. It functions perfectly and the patient is continent.

It is essential before this operation to be sure that there are no areas of malignancy in an extensive villous papilloma. This is best done by careful digital palpation under anaesthetic with biopsy of any suspicious area.

REFERENCES

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 Parks A G, Porter N H & Melzak J (1962) *Dis. Colon Rect.* 5, 407

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About a year ago I was presented with a villous papilloma of the rectum which was not quite circumferential and which extended about 6 to 13 cm from the anal verge. This was too high for excision through the anal canal and too low for anterior resection with anastomosis. Moreover, it obviously could not be completely assessed by digital palpation. It was decided to expose the involved bowel by the sacral approach of Kraske. The coccyx and the lower two pieces of the sacrum were removed; the rectum was opened posteriorly where it was not involved and 1:200,000 noradrenaline in saline infiltrated into the submucosa to elevate the villous tumour; this was then dissected free and removed. It was found that the mucosal defect could be repaired from within the lumen with interrupted chromic catgut. The rectal incision was closed in two layers and the skin after the manner of Lang Stevenson (1948). The patient's post-operative progress was gratifying, with complete continence and comfort on sitting, and he has been followed up for twelve months.

REFERENCE

- Stevenson D Lang (1948) *Postgrad. med. J.* 24, 470