with 0.2% nitroglycerine, rising to 65% at 8 weeks. This does suggest that treatment duration, at least insofar as pharmacological agents are concerned, was suboptimal in the Canadian study. The authors do not describe a preliminary pilot experience with nitroglycerine, nor do they present anorectal physiology data from each centre to indicate that each locally formulated product was in fact formulated to drop restit. anal pressure sufficiently to heal anal fissures. Users should also be aware that nitroglycerine is unstable in air and light; in plastic tubes it leaches out and rapidly loses potency.

Even so, it is likely, at least in some centres, that an active formulation was used, given the evidence that the dose had to be reduced during the course of the study because of headache, a side effect frequently seen with nitroglycerine (although not with the newer agents, such as diltiazem) (6). At the same time, however, the very fact of this dose reduction during the course of the trial strongly suggests at least some unfamiliarity with nitroglycerine.

The trial therefore compares potentially variable and untested (for efficacy) formulations of nitroglycerine by surgeons, apparently not that familiar with its use and probably evaluating its effect against previous experience. They have a right to know about this risk. And given that knowledge, it has been my experience a difficult vaginal delivery. They have a right to standard non-operative treatment without nitroglycerine, which as we all know is far worse than surgical sphincterotomy.

Turning now away from the literature and these data, it is clear incontinence. (women) of only 16, they have perhaps not surprisingly failed to demonstrate an approximate 5% risk of flatus or worse (women) of only 16, they have perhaps not surprisingly failed to demonstrate an approximate 5% risk of flatus or worse.

The technique of EMR is as follows. Physiological saline is injected in the submucosa near the tumor. The injection of saline elevates the mucosa including the lesion, and thus snaring becomes feasible. To have a sufficient elevation, saline injection should be made at multiple sites around the tumor. The first injection should be made at the site proximal to the tumor, resulting in the elevation of the lesion towards the side of the colonoscope. This makes the colonoscopic view of the entire lesion much better. The number of the saline injection sites and the volume of the saline depend on the size of the lesion. When a larger tumor is to be removed with the method of EMR, hyaluronic acid is injected into the submucosa as stated above. Because hyaluronic acid is resistant against absorption and diffusion, the elevation of the mucosa with the lesion stays for much longer time than the usual saline injection. After having had the injection of the hyaluronic acid into the submucosa, the mucosa surrounding the lesion is cut by using a electro-coagulation needle. By moving the tip of the colonoscope, the elevated mucosa is cut in cutting or blended mode, is turned on to remove the poor visibility of that particular part of the tumor. When a large sessile tumor is to be removed, muscularis propria is occasionally taken into the snared tissue. To avoid an inadvertent damage to the proper muscle, snaring should once be loosened a bit before the final squeeze. The cutting current or blended current is used to remove the lesion. The author prefers to use blended current to prevent bleeding.

HYALURONIC ACID INJECTION AND PRE-SNARE CUTTING

When a larger tumor is to be removed with the method of EMR, hyaluronic acid injection and pre-snare cutting are useful. Hyaluronic acid that is usually used for the treatment of arthritis is diluted 5 times. The diluted hyaluronic acid is injected into the submucosa as stated above. Because hyaluronic acid is resistant against absorption and diffusion, the elevation of the mucosa with the lesion stays for much longer time than the usual saline injection. After having had the injection of the hyaluronic acid into the submucosa, the mucosa surrounding the lesion is cut by using a electro-coagulation needle. By moving the tip of the colonoscope, the elevated mucosa around the lesion is cut for 360 degrees by using cutting current. When the mucosa around the tumor is cut completely, the area encircled by the mucosal cut shrinks. To avoid an inadvertent damage to the proper muscle, snaring should once be loosened a bit before the final squeeze. The cutting current or blended current is used to remove the lesion. The author prefers to use blended current to prevent bleeding.

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9) Carapeti EA, Kamm MA, Melville D, McDonald PJ, Chadwick SJD, Phillips RKS, ‘Randomised controlled trial shows that glyceryl trinitrate heals anal fissures, higher doses are not more effective, and there is a high recurrence rate’. Gut. 44, (1999): 727-730.

CONCLUSIONS

For the resection of flat tumors of the colon and rectum, endoscopic mucosal resection (EMR) is usually performed. Conventional snare polypectomy is not an appropriate procedure for flat lesions and for early invasive lesions, or lesions with a possible early cancer invasion in the submucosa.

TECHNIQUE OF EMR

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Bleeding and perforation are the two major possible complications. When bleeding occurs after snaring, clips for hemostasis is usually used. This is the most effective and safe way of having hemostasis. Injection of high concentration NaCl with epinephrine or pure ethanol injection has been reported to have a hemostatic effect against bleeding after EMR. However, because of the possible danger of perforation, we do not use such solutions for hemostasis. When a perforation is suspected due to the colonoscopic findings after EMR, closure of the defect by large "clips", which is not always necessary.

COMPLICATIONS

Particularly when a large sessile lesion is removed by the method of EMR, it is important to know whether there is any residual neoplastic tissue left behind. Meticulous observation should be made with a help of magnifying view if a magnifying colonoscope is available. When a residue of a lesion is found, it is either re-snared of using large "clips", which is not always necessary.

THE FULGURATION OF THE RESIDUAL LESION

Residues of a lesion is found, it is either re-snared or conservative or surgical (open or laparoscopic) approach should be made.

LAPAROSCOPIC TOTAL MESORECTAL EXCISION

Cliff C C Chung

Senior Medical Officer, Department of Surgery, Pamela Youde Nethersole Eastern Hospital, Hong Kong

POSITIONING OF PATIENT; TROCAR SITES

In positioning the patient on the operating table it is important that hip flexion should be kept to a minimum, or otherwise the patient's thigh will be in the way of the chief surgeon's right hand. Two ports (one 5mm, one 5-12mm) are created on the right iliac fossa for use by the chief surgeon, whereas the assistant surgeon operates via two 5mm ports on left iliac fossa. The operation is carried out by using harmonic scalpel. Troublesome bleeding is dealt with by means of a 5mm bipolar cautery forceps. The whole procedure is conveniently described in 4 stages:

1. Mobilization of the Sigmoid Colon and Rectum

The chief surgeon and the assistant are operating via the first monitor placed at the patient's foot end. This position avoids unnecessary 'paradoxical movement' and potential 'mirror-images' for both surgeons.

In the case of a female patient the uterus is first hitched up by assistant's finger in the vagina; by 'retracting' the vagina upward and forward, and the loose areolar plane between the anterior mesorectum and the upper vagina. In the female between the anterior mesorectum and the seminal vesicles and in the female between the anterior mesorectum and the upper vagina. The vagina. In the female a useful trick here is to have a second assistant's finger in the vagina; by 'retracting' the vagina upward and from below, the rectovaginal plane could be easily established. Following this, the lateral peritoneal attachment of the sigmoid is first divided. After the sigmoid colon has been mobilized, two mesenteric windows are created at the sigmoid mesentery, one at the level of rectosigmoid junction and the other at mid-sigmoid level. Two cotton tapes are then tied around the bowel through the windows. By grasping the lower cotton tape to and fro, the assistant could provide the necessary counter-traction and exposure for subsequent mesenteric division and rectal mobilization. The retroperitoneum is incised medially to the left ureter, and the left hypogastric nerve is cautiously identified. The presacral space is then entered at a plane anterior to the left presacral hypogastric nerve. The sigmoid colon is then swung to the left side, and the peritoneum at the base of the sigmoid mesentery is incised. After a 'window' at the base of the mesosigmoid has been established, the division of the peritoneum could safely continue superiorly just anterior to the aorta, until the origin of the inferior mesenteric artery is encountered. The inferior mesenteric artery is divided with staples at the aorta. Further superior dissection leads to the inferior mesenteric vein, which is likewise divided. To ensure a subsequent tension-free colo-anal anastomosis low down in the pelvis, it is important that division of the inferior mesenteric vessels should be as close to the aorta as possible (i.e. high ligation). Attention is now turned to the pelvis. The rectum is retracted upward and forward, and the loose areolar plane between the mesorectum and the presacral fascia (with the hypogastric nerves lying on it) is identified. The right and left hypogastric nerves should now be clearly visualized on the presacral fascia as two structures going downward and diverging outward in the pelvis. This presacral plane is dissected and followed as far as is comfortable. The dissection then moves to the right and then to the left of the rectum. Attention is then turned to the anterior dissection. The rectum is pulled cephalic in order to expose the rectovesical or rectouterine pouch. The anterior peritoneal reflection is then incised. In the male, the plane is developed between the anterior mesorectum and the seminal vesicles and in the female between the anterior mesorectum and the upper vagina. In the female a useful trick here is to have a second assistant's finger in the vagina; by 'retracting' the vagina upward and from below, the rectovaginal plane could be easily established. Following this, the lateral ligaments on either side of the rectum are divided, and the whole rectum (and mesorectum within the fascia propria) is mobilized down to the pelvic floor muscles. The length of the mesorectal margin distal to the tumour could be conveniently