



Modern trends in ambulatory proctology

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Abstract

Ambulatory proctology is till now very underestimated discipline, which is out of interest of „big surgeons“. But is is a very important field due to incidence of proctological affections and severe social consequences of their inappropriate diagnosis and treatment. We stress the conservative and semiinvasive treatment of hemorrhoids (personal experience with 5296 patients, to whome 13429 rubber band ligations have been applied), anal

trombosis (personal experience with 382 anal trombooses) and anal fissures (personal experience with 421 patients). We also mention the other anal pathologies, which could be treated by means of modern proctology (hidrosadenitis analis, anal fistulas). Recently, more and more proctological diseases could by treated as the out patient department procedure.

Key words: ambulatory proctology, hemorrhoids – semiinvasive therapy, anal fissure – dilatation

Introduction

Proctologic disease are as old as mankind itself and very „human“. And yet, most people still fight shyness to talk about their signs and symptoms in the anorectal region. Despite recent effort to provide health education, the anal region is still considered taboo. In the language of affiliated individual, the wide spectrum of proctologic complaints and manifestations associated with such a diseases is reduced to the almost stereotypic statement:“Doctor, I have hemorrhoids.“ A

good knowledge of the medical history helps delineate the clinical picture, although the final diagnosis cannot be made without performance of a number of diagnostic tests and procedures. Internal hemorrhoids, e.g., are not readily palpable, but become evident only by means of anoscopy. Such systemic examination procedure within the framework of proctologic practice has unfortunately still not gained general acceptance.

Haemorrhoidal disease

Investigations revealed that about 70% of adult population over 30 years of age suffer from hemorrhoids (1). On the other hand it must be noted that many patients will not consult a doctor until overt bleeding has ocured. To the layman, as a rule, all of the symptoms of the anal region are hemorrhoids, whether they are evidenced by pain, pruritus, bleeding, burning,

weeping or inflammation. For term „hemorrhoids“ is commonly used to designate a variety of anorectal diseases such as fissures, rhagades, eczemas, abscesses, internal hemorrhoids and anal trombosis.

The anorectal diseases are generally associated with leadingsymptoms such as bleeding, pain, and inflammation, which have



been a challenge to the medical profession concerned with the art of wound treatment from time immemorial. DO NOT TREAT WITHOUT PROPPER DIAGNOSIS !!!! Much worse than above mentioned diseases are delayed diagnoses of rectal cancer, colitis, internal rectal prolapse, solitary rectal ulcer,

rectal polyps, which could be also considered as „hemorrhoids“, without careful examination. Much more educational work will have to be done before patients learn to talk to their doctor early enough and without restraint about their anal discomfort.

Diagnosis

Diagnosis of hemorrhoidal disease is the synthesis of patient's history, visual control before and during anoscopy and digital examination, which serves only as a rough orientation in the anal canal. It has been traditional to grade the hemorrhoids disease into four degrees depending on the extent of prolaps:

First degree piles are cushions that do not descent below the dentate line on straining. By this strict definition everyone, even those without symptoms, fits into this category. The definition therefore has to be qualified to include only those individuals with symptoms, usually bleeding.

Second degree piles are cushions that protrude below the dentate line on straining

and can be seen at the exterior, only to disappear again immediately straining stops.

Third degree piles are cushions that descent to the exterior on straining or defecation and remain outside until the next bowel movement or possibly the next act of straining.

„Fourth degree piles“ is the term sometimes used to describe mucosal covered internal cushions that are permanently outside the anal verge and at once inside when they are replaced. Much more frequently this category is used for the complicated third degree (trombosis, inflammation, exulceration).

Correct description of the localization of hemorrhoids : 12 is anteriorly (in the direction to the pubis) , 6 posteriorly (coccygis).

Conservative treatment

Step by step method should be the fist choice in the treatment of hemorrhoids. Taking a closer look at the anorectal symptoms and the controversial views on the aethiology, it is understandable that a variety of therapeutic measures has come into widespread use. Every type of therapy, however, should include the various general measures to be taken by the patient himself:

- regular bowel movements
- diet high in dietary fibre
- ample fluid intake
- careful anal hygiene (but alcalic soap could cause anal mycosis and dermatitis!!)
- avoidance of laxatives (precise diagnosis of constipation, correction of e.g. ventral rectocoele!!)

Drug therapy

Is important in most anortectal diseases. Semiinvasive and surgical interventions are generally not necessary until conservative treatment has failed.

Therapy of bleeding

The main agents employed are adstringent metal compounds such as aluminium chloride hydroxide, bismuth oxide and bismuth aubgallate. According to Mutschler (2), „it is



quite comprehensible that there is only a quantitative difference between adstringent effect and cauterisation“.

Therapy of pain and irritation

First among these substances are local anaesthetics such as cinchocaine, lidocaine, benzocaine and polidocanol. Although fast end well acting, local anaesthetics, ultimately, have only symptomatic effects. Similar, but weaker in action are antihistaminics such as diphenhydramine. As antiallergic they have good antipruritic action in allergically induced eczema, e.g., but seldom relieve pain. On the whole, these agents are of questionable value in the treatment of pain and irritation.

Anti-inflammatory agents

Corticosteroids are still in widespread use as a potent antiphlogistic agents, but leading coloproctologists are rather critical to the employment of such agents (atrophy of anal mucosa and perineal skin and interference with the healing process). Candida infected perianal eczema is the frequent result of corticosteroid therapy (3). Lesions to the skin and mucosa are to be expected already after a treatment period of 2 weeks.

Antibiotics, antiseptics

Among the many agents used there are not only a variety of antiseptics (such as hexachlorophene) and antibiotic (as e.g. framycetine), but also phenylmercuric nitrate. Owing to the potential development of resistance, antibiotic should be avoided, particularly in long-term therapy. When administered in high doses, phenylmercuric nitrate can impair renal function. Its use should, therefore, be discontinued. Agents offering a broad antimicrobial spectrum, that is, both, antibacterial and antimycotic action, should be used by preference to guard against local infection.

Recent drugs

Acute hemorrhoidal crisis is recently mostly and successfully treated by combined remedies, e.g. Ginkor fort (containing extract ginkgo bilobae, troxerutin and heptaminol hydrochloride). Detralex (micronized, purified flavonoidic fraction, diosmin, hesperidin). The above mentioned drugs increase venous tone by improving venous wall noradrenalin activity, they increase lymph drainage and they protect the microcirculation by fighting precapillary inflammation, too (4,5,6).

Semiinvasive therapy

Sclerotherapy, cryotherapy, fotocoagulation, rubber-band ligation

Sclerotherapy

First attempts made by J. Morgan in 1869. Recently the gabriel syringe and needle is used (7). 5% phenol in almond or arachis oil is drawn up from individual 10ml phials to allow for about 3ml of injection into the base of each vascular cushion.. The result is the aseptic inflammation and lately the mucosal fixation. In the USA the phenol is forbidden and they use 5% quinine and urea hydrochlorid in the same indication (Figure 2). The anoscope is passed into the anal canal and at the point where the reddish mucosa changes to the purplish one, indicating engorged underlying vascular cushions, the sclerosant is injected immediately under the mucosa. The procedure should be entirely painless. Pain or discomfort indicates either too deep injecting or positioning of a needle too close to the anal

verge. The sclerotherapy is the first line of treatment for minor degrees of hemorrhoids, particularly causing bleeding without mucosal prolapse. One course of injection seems to be sufficient and probably upward of 70% of patients are satisfied with the results of the treatment. We used this method routinely till 1992 in the 1st and some 2nd degrees of piles. Now we prefer fotocoagulation and the sclerotherapy is used very rarely.

Cryotherapy

Cryodestruction of different lesions, using liquid carbon dioxide (CO₂) or liquid nitrogen (N₂) is well known. The freezing of tissue below -22°C causes permanent destruction by infarction and thrombosis, which occurs within 24 hours. The tissue then becomes necrotic and sloughing and separation of the



frozen tissues from the undamaged ones takes about 10 days. Liquid N₂ cryoprobes are the most widely used. The principal disadvantage is that the patient may be frightened by the cold sensation and adequate freezing may take up to 25 minutes. The use of anesthesia or sedation makes the technique less attractive as an ambulatory procedure. The tip of the probe is applied to the anal cushion to produce an iceball over 2 or 3 minutes. The second application is advised to the same cushion after a period of about 5 minutes of thawing. Although enjoying a brief period en vogue in the late 1970s and early 1980s, most surgeons have now abandoned the technique on the ground of pain and profuse discharge (8).

Photocoagulation

This method was published by Neiger (9), who adapted infrared coagulator for the treatment of hemorrhoids. The infrared pulse causes destruction by heating up to 100°C. The burned tissue reacts in a similar way to that treated by rubber-band ligation. Photocoagulation alone is good and sufficient only in the first-degree hemorrhoids. The upper grades are not indicated. Very good results are in certain cases with the combination of rubber-band ligation and photocoagulation in the 2nd degree of piles.

Rubber-band ligation

The principle of this method is the tissue loss and ulceration and therefore fixation of the mucosa. A small rubber band is applied tightly around the neck of a hemorrhoidal tissue above the dentate line. It causes ischemic sloughing of the mucosa and ulceration over the following few days. The most popular is recently the McGivney simpler version of applicator (10). The rectum should not be empty, so that there is no necessity to prepare it by means of enemas. Any position could be used. We personally prefer the elbow-knee one. A straight oblique-ended proctoscope is passed into the rectum and gradually withdrawn. The whole of the internal cushion is then allowed to prolapse into the lumen so that its apex can be clearly seen. The proctoscope is passed back up into the upper anal canal and while the assistant or nurse holds the proctoscope in position, the apex of the hemorrhoidal cushion is grasped and a rubber-band applied to its base. The principal problem and complication of the technique relates to the exact placing of the rubber-band. If this is too near to the dentate line, it may result in considerable pain and discomfort. It should be placed at least 1cm above the dentate line !!! In the original description by Barron (11) one ligation was

performed at each session and repeated at three week intervals. As to our experiences, it is also well feasible to perform two or even three ligations in one session and repeat it eventually after two weeks. The photocoagulation of the strangulated neck could fasten the necrosis.

Pain is the most common complication of the rubber-band ligation. Mostly, it is very mild (up to 20%) or severe (up to 3%). If the pain is severe – usually the first or second day -, the band should be removed. I had to do it only twice after more than 5000 ligations. Some patients' experience is a vagovagal fainting episode on standing up after banding, but it usually passes if they lie back down for a while. Secondary hemorrhoidage can occur when the tissue included in the rubber-band separates. patients should be warned that a show of blood may occur between days 4-7 after the banding. This is generally not severe enough to require consultation. I had two patients with a severe bleeding, which required hospitalisation and vessel suturing in a short anesthesia.

The most alarming report (12) described 4 men (from 34 to 54 years of age), who developed pelvic cellulitis and died. Although it is exceptionally rare, it emphasises the importance of meticulous technique and the signs and symptoms of fever, malaise, urinary hesitancy or retention and increasing local discomfort should be taken very seriously.

Many articles conclude, that rubber-band ligation is the choice for the second degree hemorrhoids. In the long-term outcomes, there could be said, that about 70% of patients are totally free of symptoms after rubber-banding and up to 7% required the operation. Further, 23% of patients require conservative measures, as e.g. repeated banding, dilatation or other methods (13,14).

Residual perianal skin flaps are fit for cutting in local anesthesia as an ambulatory procedure, too.

Barron himself recommended to combine his ligation with the cryotherapy (15) with a very promising results.

Rubber-band ligation enables to achieve results just as valid as those of traditional methods in the treatment of hemorrhoidal pathology with the advantage that it can be performed in out-patients' department, it does not need local anesthesia, it enables the patient to return immediately to normal working activity and restricted to the observation period (follow up 1 year) it allows a satisfactory control of the disease (16).



Personal results:

The main indication were the piles of 2nd degree (93%). Normally we put 1 or (less often) 2 ligations in the genupectoral position on the special proctologic table. We use disposable anoscope, 23 mm of diameter, cold light. There is no need of any kind of anesthesia. The procedure is repeated in 10-14days intervals, once, twice or more times. The control examination is done after 2 months after the last banding.

We treated 5296 patients (3052women and 2244men) in 14 years (October 1988 to June 2002). There were administrated 13429 ligations to them.

As to pain, 45% have moderate pain 1 – 2days, 14% 3 or more days. 37% have „strange feeling“ in anal region several hours to several days. 3% have severe pain 1 – 3 days. About 1% (67) had severe pain with the protrusion and trombosis, 15 of them had to be operated urgently, 52 patients have been treated in the office (reposition, antibiotics, analgetics, Ginkor or Detralex).

Bleeding: slight bleeding has been observed in 72% of patients (day 3 to day 6). Severe bleeding, which caused special control was at

102 patients (1,5%). They were trated by means of fotocagulation. 7 patients (0,13%) had to be observed in the hospital, 3 of them operated urgently (suture in the anal canal).

We observed no death, no pelvic or retroperitoneal fasciitis.

226 patients with haemorrhoids (4,9%) had also anal fissure.

We consider the rubber-banding as the best and most safe semi-invasive method of the treatment not only the second degree hemorrhoids, but also many of those with the higher degree (17).

Conclusion

Step by step treatment of hemorrhoids is , on one hand, time consuming, but on the other hand the best and the most friendly one for the patient. Combination of the diet, improvement of emptying, pharmacotherapy and the semi-invasive treatment can treat more than 90% of patients, suffering from hemorrhoidal disease. Also radical hemorrhoidectomy can be safely done as the ambulatory procedure (18).

Fissures

Fissure in ano is a „crack“ or „cut“ in the lining of the anal canal. It is an oblong, mostly drop-shaped ulcer in the dry, sensitive anoderm area. Ulcer in ano is a fissure in its chronic stage. The lesion is classically associated with bleeding and intense pain at the time of defecation. The most common localisation (about 90%) is on the posterior mid-line. The anterior commisure is affected in about 9% of cases. Atypical fissures are rare and mostly occur in specific inflammations. It has roughly equal distribution between the sexes.

Incidence

The exact incidence of this lesion is unknown. But apart from hemorrhoids, this disease is the most common condition seen in proctology. Suffice is to say that it is very common. Practitioners do not see all patients who suffer from this disease, because the lesion is so painful, a good guess is that most sufferers see a doctor for relief of symptoms at some time during the course of the disease. As the general public is unaware of medical

terminology, they usually complain of hemorrhoids.

Etiology

A traumatic event is thought to cause fissures, such as the passage of hard stool or severe diarrhea. In the firrst instance, a mechanical tear results and in the second a chemical burn is caused by severe alkalinity, which usually accompanies diarrhea. Most patients are unable to relate the beginning of symptoms to a particular event. Thus, in some cases, symptoms have an insidious onset whereas in others it is quite dramatic.

Pathology

An unheald fissure gives rise to chronic, intermittent or continuous symptoms that with time change the appearance of the fissure from a crack to an ulcer-like crater, most commonly in the posterior midline just bellow the level of the dentate line (No. 6). Many patients also present with a skin tag or sentinel „pile“ distal to lesion, signaling the presence of



a fissure just proximal to it. Not infrequently, they also have a proximal hypertrophic papilla varying in size from less than 1cm to as large as 3cm. Fibers of the internal sphincter can be clearly seen in its base, it bleeds easily when touched, and it is acutely painful. Painless lesions could be suspected from Crohn's disease. The cause of the tag or the hypertrophied anal papilla is unknown but may be associated with „infection“ or the body's attempt at healing. Fissures are usually single but an anterior and posterior fissure can occur together

Signs and symptoms

Most patients complain of „hemorrhoids“. Severe undescrivable pain and intense cutting, tearing and knife-like sensatinos lasting many hours are classic symptoms. Bleeding is always bright red and the pain is associated with the immediately follows bowel movements. Many patients are so fearful of having a bowel movement that they „hold it“ and in so doing exacerbate the situation by producing harder stools. Pain and fear of pain are so severe that patients may even cry or cry out during the bowel movement. A very strong sign is that patients are very reluctant to be examined by anyone.

Diagnosis

95% of the time the history is so classic that the diagnosis can be made by this alone. Physical examination should be done with strong continuous reassurance to the patient and great care needs to be used at the time of examination. Gradual exposure of the perianum after gently separating the buttocks is essential. The perianum is carefully everted with steady traction. The lesion can usually be seen at the posterior midline. When further examination is necessary, a well lubricated pediatric anoscope is placed at the perianum and the patient is asked to strain down. By directing pressure away from the lesion, the anus can be examined. Digital examination follows in the same way.

Differential diagnosis

Any fissure or ulcer with an unusual appearance should be suspect. An edematous, granular, ectopically located, chronic-appearing lesion, especially when multiple and

associated with tagging and redness of the perianum should strongly suggest the presence of anal Crohn's disease, especially if pain is absent. Other conditions, such as carcinoma and lesions associated with immunodeficiency states, should be given careful consideration.

Treatment

Surgery – surgical options are offered for fissures in the chronic state or for intensely painful fissures that respond slowly to conservative measures. This approach is common in USA and other countries (19,20). In Europe, there are more popular conservative methods, because of possible complication of the surgery (incontinence up to 10%). Some authors prefer anoplasty, which seems to have very limited indications (21).

The treatment of chronic fissure in ano with nitrate ointment is other promising conservative possibility (22), but the success rate of such a treatment is not satisfactory.

There are some other possibilities, how to treat anal fissures. Infiltration by botulotoxin (safe, but expensive) and dilatation (safe, cheap, but time consuming) (23,24).

We personally prefer the dilatation therapy (Dilatan, made by Sapimed).

Results:

Originally (1988-1996) we treated the chronic anal fissure in several different, non-unified way (156 patients). Since 1.1.1997 till 31.12.2002 we treated 265 patients, suffering from chronic anal fissure (122 men and 143 women).

They were treated from 6 weeks to 4 months, dilatation was done twice daily. The symptoms disappeared completely in 243 patients (92%). The fissure healed in 203 of them (84%). 10 patients were indicated to partial lateral sphincterectomy.

The rubber band ligation of concomitant haemorrhoids was done in 102 of them. There were no complications of the treatment of chronic anal fissure.

Dilatation therapy of chronic anal fissure is time consuming, safe and cheap method. The patients are satisfied. There is a rare indication to surgery.



Anal thrombosis

The perineal subcutaneous hematoma may or may not be associated with a hemorrhoidal complex. It is always solitary and can occur 1 to 3 cm from the anal verge.

Treatment

The management of anal thrombosis depends on when the course of the disease the patient presents. The natural course of this condition starts with thrombosis of external hemorrhoid. This event is often associated with effort or straining (moving or lifting furniture, heavy exercise, etc.) The tissue around these clots swells causing moderate to severe pain. If not treated, in 2-4 weeks, the clot in the thrombosed vessels will either spontaneously drain through the thinned overlying skin or be gradually resorbed and the discomfort will gradually diminished. After resolution, redundant anal skin will remain which is usually asymptomatic and requires no treatment.

Since 1.1.1997 till 31.12.2002 we treated 382 patients with anal thrombosis. Our preference is to make a small incision or excision (3-4mm) above the thrombosed external hemorrhoid and to extract the underlying clot. It is not uncommon to encounter bleeding from the wound. This may be arterial or venous and brisk. Bimanual spreading of the cutaneous wound exposes the bleeding surface and has a

hemostatic effect. With the wound held open by assistant, the viscous, yellowish-brown Monsel's solution is spread evenly on the wound with a cotton swab. Bleeding points may require focal pressure with the swab for a few seconds to secure hemostasis. A rare bleeding vessel may require electrocautery but Monsel's solution alone nearly always suffices (25). Within 5-10 days there is completely healed perianal skin. Up to 20% there is a recurrence of thrombosis within 1-2 years. There is no direct connection between anal thrombosis and internal hemorrhoids.

Conclusion

Ambulatory proctology is a very special field of surgery, which can help up to 80-90% patients with the proctologic diseases. Very complex is the diagnosis and treatment of constipation and fecal incontinence. In the step by step therapy, there is a wide field to bio-feedback procedures.

Many other anal pathologies can be treated at the outpatient department, too (some anal fistulas, abscess, condylomata accuminata, anal hidrosadenitis, dermatitis, candidosis and some others).

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