Possible complications

Information sheet on TEM post-operative procedure

TEM presents a fundamentally less stressful method of removing tumours in the rectum. A tumour can also be removed from the area of the lower rectum, although using other instruments and with less precision. A tumour in the middle or upper rectum normally necessitates a radical operation, so in this case a TEM operation affords clear and considerable stress relief.

Due to the small and exact surgical incisions made during the TEM operation severe complications, particularly life-threatening complications, are extremely rare.

Despite this the following problems can occur after an operation:

Pain and fever

Normally an operating area in the middle or upper rectum is largely pain-free as there are few pain-transmitting nerves in this area. The nearer a tumour is to the sphincter muscle, the more suturing must take place in the very pain-sensitive region of the anal mucosa. If a suture is placed near to the anus there will be a certain amount of pain for the first few days after the operation. Painkillers should be administered. This pain subsides within a few days.

Pain can also be due to a local infection. If bacteria spread around the sutured area fever and pain normally occur as a result of the infection. This can be successfully treated with infusion therapy and antibiotics.

Slight fever

During the first post-operative days a fever of 38 or 38.5° often occurs and normally doesn’t present any complications. Temperature will sink again after a short waiting period.

Bleeders

It is extremely unusual for a bleeder to occur during the first 2 post-operative days. It is almost always possible to carry out complete haemostasis during the operation. If there is bleeding out of the anus later than the 2nd or 3rd post-operative day, this is often a sign of local infection. There is no cause for alarm if only dark blood or less than a tablespoon of bright blood appears. The bleeder will normally stop on its own. The doctor should be informed immediately in the case of larger amounts of bright red blood. Haemostasis will probably be carried out in the operating theatre.

Diet

Depending on the size and the position of the operated area in the rectum solid food will be introduced sometime between the 2nd and 5th post-operative day. In the case of particularly difficult operations we wait a bit longer in order not to impair the wound healing process with premature eating and resulting early bowel movement. Once food intake has commenced there are no particular restrictions on the type of food
that is allowed. Care should simply be taken that bowel movement is not too soft or too hard. In the case of hard stools lactulose (milk sugar) can be administered temporarily.

Physical Burden

In general physical fitness suffers very little after the TEM operation. Already on the evening after the operation the patient is allowed to stand up and walk with the help of the nurse. On the next day the patient should frequently and independently get out of bed and walk out into the corridor in order to cover a greater distance. In the case of dizziness or circulatory problems the patient should only leave his bed with the nurse’s assistance.

Physical and sporting activities can be resumed shortly after being discharged from hospital. For the first 2 weeks a bike saddle could prove quite painful and for this reason bike riding should be avoided for the first 2 weeks after the operation.

Control of the sphincter muscle

Due to tension during the operation the sphincter muscle is still somewhat over stretched after the operation and it is possible that muscle’s power is slightly impeded by any infection of the wound. In principle it can be assumed that the sphincter muscle will recover within a few weeks. But if liquid stool occurs shortly after the operation the sphincter muscle might not be sufficiently strong to hold it back. For this reason it is advisable to wear a protective pad for the first few days and to take care that the stool becomes more solid and can be retained.

Longer lasting problems with sphincter muscle control also recede within a few months. Permanent impairment of muscle control is extremely rare.

Information sheet on Transanal Endoscopic Microsurgery (TEM)

Diseases that can be treated by TEM

Benign and malignant rectal tumours are quite a common occurrence and in their advanced stages, malignant tumours require radical operative treatment. Cancer of the rectum always stems from a benign growth. If the tumour is discovered at an early stage and is still benign, it can be removed so as to prevent the occurrence of cancer. Today’s technology also allows a malignant tumour in its early stages to be removed by TEM, thus avoiding a radical operation.

The various operations

Suitable tumours found in the lower part of the rectum can be removed by normal surgical techniques, with the help of retractors. Tumours situated high up in the rectum are removed by radical operation, mostly through an incision in the abdomen, as this is the safest way of accessing the tumour. During recent years it has been proven that TEM can be successfully used with all rectum localisations. This is safer and also less strenuous for the patient (more precise removal of the tumour thanks to better visibility, reduced blood loss, less post-operative pain, shorter hospitalisation period, better functioning of the sphincter). During TEM the rectum is dilated with the use of gas via the rectoscope. The surgeon gains a clear view thanks to the use of an optic very similar to a microscope. Highly
technical and specialised operating instruments allow for the safe removal of tumours, precise haemostasis and exact suturing. The operation is carried out under general anaesthetic, as it is important that patients remain absolutely motionless, particularly as gas dilation is performed.

Prerequisites for carrying out successful TEM

- The bowels must be thoroughly cleaned and it is very important that the recommended amount of liquid is taken.

- Especially in the case of deep positioned tumours, it cannot be fully determined before operating whether a tumour can be reached and successfully removed by TEM. Occasionally it is necessary to continue the operating procedure using open surgery via an incision in the abdomen.

- Whether the tumour is malignant and how deep a carcinoma is, can usually only be established after the pathologist has examined a sample under a microscope, after which it could be necessary to undertake a further operation or other measures.

Post-operative complications

As in the case of all operations complications during and after TEM may occur.

- Bleeders during the operation can always be stopped. A post-operative bleeder can sometimes occur. This usually stops of its own accord and, if not, can be coagulated with the rectoscope.

- Neighbouring organs can be damaged during an operation. A fistula towards the vagina can occur, which can be closed with a further operation.

- The performance of the sphincter can be affected after TEM, although almost always temporarily.

- Emptying of the bladder can also be impaired (temporarily) due to pressure from the rectoscope or from infection of the operational wound.

- Operating on tumours situated high up the rectum can lead to an entry being made into the abdominal cavity. This can lead to bacteria entering the abdominal cavity and to the outbreak of an infection. The opening must be sealed during the operation via suturing from the rectoscope.

- The body must be situated in a particular position on the operating table. During a long operation this can lead to problems such as numbness in the legs.

The infection of a wound in the bowel can lead to the following:

- Suppuration can delay the healing process. This is mostly associated with slight fever.
• A very acute infection can lead to sepsis. If administered antibiotics do not lead to a quick recovery, it might be necessary to set an artificial bowel opening (temporary stoma) to aid the healing process.

• Scarring may occur after infection, which can lead to a narrowing of the bowel. In most cases a stenosis can be widened with dilation.

Important post-operative details:

After the removal of a benign tumour the patient should be re-examined every 3 years (complete coloscopy). This can help to reduce the risk of colon cancer, which occurs more frequently in patients who have had polyps.

After the removal of a cancer it is necessary to carry out a close series of examinations in order to be able to respond quickly if another tumour is found. Results of all post-operative examinations should always be sent to Professor Buess.

Information sheet on rectoscopy and endoluminal ultrasonic examination

The special operating techniques that can be carried out in the rectum and colon using minimally invasive surgery require highly specialised diagnosis of the area and of whether the tumour has penetrated the wall.

Preparation at home:

No anticoagulant medication such as Marcumar or acetylsalicylic acid (Aspirin) should be taken.

The Examination

Normally a small enema is given in order to clean the bowels. During the examination a rigid rectoscope depicts the area. The rigid barrel is necessary in order to gain more detailed information on height and accessibility of the tumour.

Possible Complications:

Complications during the examination can lead to damage to the intestinal surface and possibly lead to a bleeder. A bleeder could also occur during biopsy. It may then be necessary to perform haemostasis though in general this can be done using the rectoscope.

In the case of mutations located high up damage could possibly be caused to the intestinal wall and as a consequence, peritonitis set in. It is highly likely that this can be avoided if the examination is undertaken with great care.

Endoluminal Ultrasonic examination:

In this procedure an ultrasonic probe is inserted into the bowels using the rectoscope. Water is introduced either by a small plastic balloon that is
positioned above the probe or the rectoscope is directly filled with water. This examination currently gives the best information about the tumour type and how deep it has penetrated the intestinal wall. In general complications that can possibly arise from the probe are similar to those possible with the rectoscope. It is important that the doctor is informed of any pain felt during the examination.

Information on combined radio chemotherapy and local excision in the case of rectal carcinoma near the sphincter muscle

If a rectal carcinoma is found near the anus or directly on the sphincter there is no classical operating method that will allow the sphincter to be retained. Normally this operation is combined with a colostomy bag for life.

This operation, known as rectum extirpation, is the operation classically carried in the case of this disease. The aim of this operation is to completely remove the tumour along with the lymph nodes that possibly contain tumour cells and are located along the blood vessels in the pelvis.

Transanal Endoscopic Microsurgery (TEM) is a method that was developed 20 years ago for the local treatment of benign and early malignant tumours in the rectum.

In the meantime it has been possible to establish that early rectal carcinoma that have not yet penetrated the muscular layer of the intestine have a good chance of being successfully removed using this technique. This method is now accepted and part of routine practice in many hospitals around the world.

On frequent occasions rectal carcinomas found in older people that have already penetrated the muscular layer (T2) but display favourable cell characteristics, have been removed locally (the results here so far are also very positive).

About 10 years ago an Italian surgeon, Professor Emanuelle Lezoche (Rome), who was introduced to the MIC technique in Tuebingen, developed a new method that works as follows:

If an expected T2 carcinoma is diagnosed near the sphincter muscle, radiochemotherapy is first administered. Radio and drug therapy combine to kill the cancerous cells that have possibly drifted into the lymph nodes, thereby achieving a similar effect to the operative removal of the lymph tracts.

As a rule the tumour is also shrunk by the radiotherapy, sometimes the depth of the growth can also be reduced.

After radio chemotherapy is concluded the tumour area is resected using Transanal Endoscopic Microsurgery, during which, and depending on the position, surrounding fatty tissue and lymph nodes in the proximity of the tumour can also be removed.

In the case of patients with an assumed T1 (early) carcinoma to be resected locally but, which after conclusive histology proves to be a deeper growth (T2), according to previous experience radio chemotherapy can also given following local excision.
In the mean time Professor Lezoche has gained experience with 100 patients with this technique, with a follow-up period of up to 8 years, which is looking very positive. Recurrence rate (that is the probability of a cancer reappearing as well as the scattering and further development of cancers) is not higher than that observed with radical surgery.

Our own, more limited experience has shown just as positive results.

It must be kept in mind, however, that this procedure is not yet accepted by all experts and as such is not yet an established procedure. To achieve this more experience must be gained. It is in this context that we are currently planning a European study including the most experienced hospitals. A controlled, randomised study will finally judge the quality of this procedure.

Patients that are treated using this method should know that it is in fact still an “experimental” procedure, whose guarantee will still take some time. They must consent to carry shared responsibility for this uncertainty, but they should also be aware that it will not be possible to develop new and less strenuous techniques in the future if patients are not prepared to have a technique used on them, that has not yet gained the safety seal of approval that established techniques have so far gained from experts.

I have understood the contents of this information sheet. In this context I decline a radical operation and colostomy and declare myself ready to bear the above-mentioned risks of this new operational technique.