Staff Meeting Bulletin
Hospitals of the » » »
University of Minnesota

Surgical Treatment of Hemorrhoids

Volume XIV | Friday, November 13, 1942 | Number 7

STAFF MEETING BULLETIN
HOSPITALS OF THE . . .
UNIVERSITY OF MINNESOTA

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INDEX

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William A. O'Brien, M.D.

I. LAST WEEK

Date: November 6, 1942

Place: Recreation Room
Powell Hall

Time: 12:15 to 1:10 p.m.

Program: "Chronic Otitis Media and Mastoiditis"
George M. Tangen

Discussion
L. R. Boies
J. J. Hochfilzer
C. A. Fjelstad
C. J. Hutchinson
Harold Peterson

Attendance: 105

Gertrude Gunn,
Record Librarian

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II. MEETINGS

1. SEMINAR IN PATHOLOGY

Monday, November 16 at 12:30 p.m. in room 104 Institute of Anatomy, "Hemorrhagic Diatheses," A. J. Hertzog.

2. SEMINAR IN ANATOMY

Saturday, November 14 at 11:30 a.m. in room 226 Institute of Anatomy, "Infectious Mononucleosis," Dorothy S. Reiff.

3. SEMINAR IN BACTERIOLOGY

Thursday, November 19 at 4:30 p.m. in room 214 Millard Hall. "Mode of Action of Sulfonamide Drugs," Daniel Tenenberg.

III. ANNOUNCEMENTS

1. LABORATORY REQUESTS AND REPORTS

Five new forms are available for requesting and reporting laboratory procedures labelled: "G.I. Specimens, Urine Report, Blood Report, Body Fluids Report, and Routine Blood Chemistry Reports." The standing rule that all laboratory requests except routine urinalysis are to be filled out and signed by the doctor, which has not been adhered to in the past, will in the future be strictly interpreted.

Special Instructions: (1) On gastric analysis request blanks the stimulus and the time of collection is to be indicated. (2) Body fluids are to be brought to the laboratory promptly and the attention of the technician called to the specimens. Spinal fluids requests must be entered in an appropriate book by the doctor. (3) Do not wrap blood chemistry blanks around specimen tubes; separate slips with name and number of patient should be wrapped around specimen.

Special laboratory tests not included on any of the above forms must be scheduled and requested on plain "Laboratory Request Blank." To remind you again--phosphatase determinations are carried out on Monday, Wednesday, and Friday; galactose determinations are carried out on Tuesday and Thursday; for the time being at least, cephalin-cholesterol tests are being carried out on Wednesday.

DO NOT REQUEST admission blood and urine examinations, because these are carried out routinely as soon as possible on every patient admitted. Requesting admission laboratory work causes duplication of work and hinders rather than hastens progress.

Laboratory work that is desired for any given day must be ordered by 8:00 a.m. Requests coming into laboratory at a later time than this will be carried out that day only if time permits. Requests on private out-patients should be clearly indicated as such and the address of the patient given.

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IV. BABIES

1. Dr. and Mrs. Harry Hall, a boy, Thursday, November 11. According to reports it will not be named Junior.

V. SURGICAL TREATMENT OF HEMORRHOIDS

Walter A. Fansler
William C. Bernstein

The history of the surgical treatment of hemorrhoids is unique in that the problems and controversies which prevailed approximately 2000 years ago are still discussed today and in the minds of many men remain unsolved. The chief argument is the question of how hemorrhoids should be removed--that is, should they be removed by actual cautery or should one of the various types of ligature and excision, with or without the use of clamps be employed. At the present time another form of treatment, the injection method, has become quite popular. It is satisfactory in the treatment of a certain type of hemorrhoid, but since it is a non-surgical method it will not be discussed in this report.

Until a rather short time ago, certainly since the turn of the century, rectal surgery was looked upon as a menial task by many surgeons and little attention was paid to it by surgeons who were otherwise well-trained. The removal of hemorrhoids was usually the task assigned to the intern or resident who had no previous instruction or experience in this type of work but who did the best he could under the circumstances. He then went out into practice inadequately prepared but still resolved to do his own rectal surgery. This type of practice was unsatisfactory from the standpoint of both physician and patient and led to the tendency on the part of the laity to patronize any advertising quack or cultist who showed particular interest in treatment of rectal diseases.

Hemorrhoid can be defined as a mass of dilated venules originating from the radicals of the superior or inferior hemorrhoidal veins, which are covered by skin or mucous membrane. Hemorrhoids which originate above the pectinate line are covered with mucous membrane and are called internal hemorrhoids. Those arising below the pectinate line are covered with skin and are called external hemorrhoids. The great majority of hemorrhoids, however, are of the mixed type, that is, they are covered in part by skin and in part by mucous membrane and are called mixed, externo-internal or ano-internal hemorrhoids.

The earliest historical reference to hemorrhoids apparently is to be found in the Bible. The term which is used here, however, is "Emerods" and may refer to any and all disease of the anorectum. The word "hemorrhoid" is derived from the Greek and means "flow of blood." Loss of blood has always been an intriguing subject and has held the interest of men of science since the beginning of medical history. Hippocrates and other physicians of his era felt that the flow of blood from the hemorrhoidal vessels served a useful purpose and even prevented other diseases such as pleurisy, pimples, boils or leprosy.

Morgagni in the 17th century was the first to observe that hemorrhoids did not exist in animals and therefore he thought they were due to the erect position of man and to hereditary predisposition. In the Dictionary of James written in 1760 attention is called to the difficulty which the blood encounters in circulating from the hemorrhoidal veins to the portal vein and the liver because "the veins are vertical and possess no valves." This conception is still accepted as the most likely predisposing factor in the etiology of this disease. Other etiologic factors which are of importance are the following:

1. Constipation with straining at stool and traumatization of hemorrhoidal vessels.
2. A diet containing large amounts of highly spiced foods which irritate the mucous membrane and incite peristalsis.
3. Physical straining which brings about rupture of a hemorrhoidal vessel producing a thrombotic hemorrhoid.
4. Constrictive clothing.
5. Pelvic tumors and congestive diseases.

6. Pregnancy.

One of the earliest recorded treatments of hemorrhoids is the description by Hippocrates translated by Adams: "Having in the preceding day first purged the man with medicine, on the day of the operation apply the cautery. Having laid him on his back, and placed a pillow under his breech, force out the anus as much as possible with the fingers and make the irons red-hot, and burn the pile until it be dried up, and so that no part may be left behind, and burn so as to leave none of the hemorrhoids unburnt, for you should burn them all up." This advice is in contradiction to his other writings in which he advised that one hemorrhoid be left, as a safety valve.

The treatment of hemorrhoids by the cautery method has been handed down through the generations and has been the subject of much argument at all times. As early as the beginning of the Christian era the method was ignored by Celcus and was later condemned by Andreus and Cruce. Pare did not believe in the use of the cautery for hemorrhoids and Sir Charles Bell, the famous 18th century English surgeon, said, "Smoke arising from the anus under the influence of a hot iron should impress the friends of the patient and bring back to their minds the days of the Inquisition.

Aside from the surgical and cautery treatment of hemorrhoids the various forms of treatment were quite characteristic of the various ages. For example, Galen employed bleeding from the arm to stop bleeding from hemorrhoids and bleeding from the feet to bring it back. Suction cups and leeches were used by some. Ambroise Pare in 1545 recommended cooling of the liver to stop rectal bleeding. Various lotions, herbs and other applications were commonly used. In France at one time it was the custom to carry chestnuts for the relief of hemorrhoids. The good results were attributed to the similarity in appearance of chestnuts and hemorrhoids. It had also been recommended that the back leg of a toad or an entire dried toad be worn around the neck or under the arm pits as a preventative measure against hemorrhoids.

Surgery came into its own in the treatment of hemorrhoids in the 19th century with the work of Kerby (1818), Brodie (1835), Smith (1835), and Salmon (1835) in England and America and of Boyer (1830), Chassaignac (1858) and Benoit in France.

The ligature operation was first used by Galen (2nd cent. A.D.) and later popularized by the French surgeons in the early 1800's. This method had fallen into disrepute at different times only to be brought back again by surgeons who felt that it was the better operation. Galen's technic was a simple ligation of the pedicle of the hemorrhoid which produced a slough of the tumor mass. Ligation of the pedicle and surgical amputation of the tumor was then adopted as the procedure of choice and was popularized by Salmon at St. Mark's Hospital in London. In recent years a modification of the older ligature and excision method was described by Milligan and Morgan of St. Mark's Hospital who conducted extensive research in connection with certain points of anatomy of the ano-rectal region.

The poor results which attended much of the hemorrhoidal surgery in the past were due to one or more of these factors, namely,

1. Inadequate removal of pathology with early return of symptoms.

2. Removal of too much tissue with subsequent stricture.

3. Injury to sphincter muscles with subsequent incontinence.

4. Postoperative infection.

Louis Hirschman once said, "I question very much if any surgeon would remove varicose veins of the leg by clamping the skin covering the veins and including some of them, cutting the mass away and burning the surfaces with the cautery. There is no more reason for destroying good rectal mucous membrane by excision or cautery, just because it happens to cover a venous tumor beneath its surface." Such a technic he states "is a confession of inability to properly con-

serve mucous membrane, to select diseased veins from healthy ones, and also a lack of confidence in one's ability to produce good hemostasis by the use of ligatures."

Present day proctologists and well-trained surgeons realize the importance of good surgical technic and of proper regard for basic principles in the care of infected wounds so that all hemorrhoidal tissue can be removed without producing distortion or dysfunction of the structures involved. The Dissection Hemorrhoidectomy which was described by W. A. Fansler in 1933 and which has been in use in the University of Minnesota Hospitals for several years has given uniformly good results in our hands for most types of hemorrhoids. On some occasions it becomes necessary to do a more radical removal of the hemorrhoidal area utilizing a plastic type of procedure.

Operative Technic

An ideal hemorrhoidectomy should fulfill several requirements.

1. All varicosed vessels and interstitial tissue, together with all excess mucous membrane, anoderm and redundant skin must be removed.

2. Sufficient mucosa, anoderm and skin must be left to cover the raw areas of the rectum and anal canal so that stricture will not result, and so that a normal-sized stool may be passed without pain or difficulty.

3. The operation should cause a minimal amount of postoperative pain, cause a minimal amount of disability, and require a minimal time for healing. Large raw areas do not contribute to these results.

4. The method should be easy to execute, and with slight modification, should be adaptable to all types of hemorrhoids.

We believe all these conditions are well met by a procedure which we have termed "Hemorrhoidectomy - An Anatomical Method." This operation is one which was gradually evolved from the older dissection and ligation method of operation. The first modification was in not everting the hemorrhoids at the time of operation. Eversion of the hemorrhoidal tissue confuses normal anatomical relationships and makes it more difficult to determine just what and how much tissue to remove. Allowing the hemorrhoid to remain in its normal anatomical position and then dissect it out, is a much more exact and logical procedure. That the hemorrhoids might be rendered more accessible and more easily removed, a special slotted-anoscope was devised. The slot permits accurate visibicity and easy accessibility of the hemorrhoids to be removed, and other hemorrhoids or bulging mucosa, are kept out of the field of operation by the wall of the anoscope. With the hemorrhoid to be removed thus isolated in the slot of the anoscope, actual operative procedure is as follows:

A plain 0 catgut suture is placed just above the upper pole of the hemorrhoid. The needle is passed deep enough to graze the muscularis, but not deep enough to pierce it. In most instances this suture will pass beneath the large artery entering the upper pole of the pile, and when tied will minimize bleeding while the hemorrhoid is being dissected out. The suture is not cut. If the vessel is not secured by this stitch, the suture acts as a "guy wire" for a subsequent stitch which will secure the vessel. With scissors an incision is now made from the lowermost point of the hemorrhoidal mass to a point just below the original stitch. If the hemorrhoid is the interno-ano-external variety, the beginning of the incision may be well out on the perianal skin - perhaps an inch or more from the anal margin. On the other hand if the hemorrhoid is purely internal in character, the start of the incision may be as high as the pectinate line. As has been said, redundant tissue must be removed, but enough must be left so no large raw surfaces will remain in the anal canal at the completion of the operation. With a small hemorrhoid the incision may be carved longitudinally along the most prominent bulge of the

hemorrhoidal tissue. If a large hemorrhoid is encountered, and it is deemed advisable to remove a portion of the skin and/or mucosa covering it, the original incision is made somewhat lateral to the most prominent point. A second parallel incision is made on the opposite side of the hemorrhoid, and thus a strip of the hemorrhoidal covering is removed. The width of this strip should be such that when closure of the defect is made, the edges of the skin and mucosa can be approximated without tension and without redundancy. These incisions should not be deep enough to sever any muscular tissue, and if the operator is not too experienced, it is safer to make shallow incisions first through the mucosa and then dissect out the underlying tissue piecemeal. After the original incision is made, the edge of the mucosa, skin or anoderm is grasped with forceps by an assistant and retracted. The underlying vessels and connective tissue are carefully dissected out. This is best done without too much haste, and the dissection should be continued until the circular muscular wall of the rectum and the sphincter muscle are exposed. The free exposure of these muscles insures the removal of all varicosed vessels. Large bleeding vessels may be seized and ligated. Usually there are arteries presenting themselves at the outer margin of the external sphincter muscle which should be ligated. The cut edges of the wound are now approximated with sutures which may be either interrupted or a continuous lock suture. This line of sutures will often control bleeding, but if there is a bleeding vessel which the stitch does not ligate, a hematoma is certain to result. This is not serious but it does delay healing, may produce a skin tag, and often causes a swelling which temporarily looks worse than the original hemorrhoid. The operation is completed by dealing with all other hemorrhoids in the way just described.

As has been stated, an ideal method or system is one which can be modified to apply to all conditions, and this operation can. To illustrate this - in many patients there are not three or four distinct hemorrhoidal masses, but a generalized enlargement of the entire hemorrhoidal plexus so that a complete circle or doughbut of hemorrhoidal vessels presents itself. The principle of treatment is the same, but in this case four or five points are selected for incision more or less equidistant in the circumference of the doughnut. At each point a longitudinal incision is made along the full length of the varicosed area, the margins of the incision retracted, and the vessels dissected out. The lateral dissection made through one incision should meet the lateral dissection made from the adjacent incision. In this way all the varicosed vessels about the entire circumference of the anal canal and rectum are removed. Any skin tags or other pathology are also cared for.

Following operation the operative field is sprinkled with sulfathiazole crystals. A small amount of nupercaine ointment is applied to a rubber dam and this dam placed against the anus. If there is undue oozing a piece of gauze may be placed in the center of the dam and the dam inserted into the anal canal. The use of the rubber dam prevents any adherence of dressings to the wound.

The postoperative care is important in securing a good result, and also in minimizing pain. Our experience has been that after twenty-four hours most patients experience little pain, although there may be considerable soreness and tenderness. Any packing in the anal canal causes spasm and increases pain, so if a rubber dam is inserted into the anal canal at the end of the operation, it is removed the same afternoon. Hot moist packs are also of benefit the first day postoperatively. The best assurance for comfort during the first twenty-four hour period is adequate sedation. Assuming the patient is not intolerant to morphine, he is given morphine 1/6 to 1/4 grains subcutaneously, and 1½ to 3 grains of nembutal orally one hour before operation. At the completion of the operation, is the pulse is not slowed, the morphine is repeated. A P.R.N. order is then left and often the nembutal is repeated in four to six hours. On this regime the

average patient will state the following day that he had little discomfort. Additional morphine is usually not required, although aspirin or similar drug may be needed. At the end of twenty-four hours hot packs or Sitz baths are started and are repeated b.i.d. Thirty-six hours postoperatively mineral oil is given, the average dose being a half ounce. This amount is determined by asking the patient as to the normal consistence of his stool, and as to his reaction to cathartics, or mineral oil. This is important for frequent stools are as distressing as constipated ones. Ordering routine amounts of oil or other laxative drugs for patients, is pernicious. The second morning the patient is given an oil enema through a soft rubber catheter which is inserted by the physician. Subsequently the patient has sub-laxative doses of mineral oil followed by an enema, at anytime the patient has gone forty-eight hours without an evacuation. A small amount of 2 per cent aqueous mercurochrome, a solution of 1-1000 neutral acriflavine, or witchhazel, is instilled daily with a medicine dropper.

Most important of all, the operative field is inspected daily, and no skin margins are allowed to seal over until healing is complete from below. Digital examination is not done for at least ten days. The patient usually leaves the hospital within five days and is then seen at the office until healing is complete, which ordinarily occurs within three weeks from the time of operation.

References

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2. Hirschman, Louis J.
The Surgical Treatment of Hemorrhoids.
Tr.Am.Proct.Soc. 66, '25.

3. Milligan, E. T. C., Morgan, C. Naunton, Jones, L. E., Officer, R.
Surgical Anatomy of the Anal Canal, and the Operative Treatment of Hemorrhoids.
The Lancet, Nov. 13th, 1119, '37.

4. Fansler, Walter A.
Surgical Treatment of Hemorrhoids.
Minnesota Med. 17:254, (May), '34.

Note: The historical data used in this presentation is an abstract of the data published by Laufman in the above reference.

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VI. GOSSIP

Births in Minneapolis Hospitals for October, 1942 show the following scores: Abbott, 99; Asbury, 67; Deaconess, 99; Eitel, 59; Fairview, 97, General 37; Maternity, 106; Northwestern, 111; St. Andrews, 46; St. Barnabas, 120; St. Mary's 172; Swedish, 199; University, 42; Victory, 7. This looks strange by comparison with pre-war days when the Minneapolis General Hospital was the leader. There are several explanations for this, the most important one being that more people now have the money to pay for this service. War time also brings other changes. Because of the shortage of farm labor one of our state mental hospitals decided to let their patients help the neighbors. They selected a group of volunteers and sent them forth. Sometimes they were supervised by the regular foreman on the job, at other times by the hospital attendant. The regular wage paid for the service was given to them. The institution acted as custodian and the money was deposited to the patient's credit. One of the big treats was a meal in a restaurant at noon. The first few days they acted strange, but as soon as they found what was expected of them they went ahead. In the canning industry alone they contributed over 25,000 hours of labor and were voted the best workers of all the employees in field work. Some were sent to farms to help individual farmers. These placements were also successful. The attitude of the group changed considerably as the result of their experience. Many of them felt for the first time that they were of some value to society and were especially pleased because their contribution was made during war time....Dr. Robert Schaefer, now stationed with the navy in Minneapolis and an old friend from Detroit, Michigan, is a patient in the hospital this week. He has many kind things to say about the friendliness of our medical and nursing staffs. One of the nurses stopped us during a conversational splurge and asked if either one of us had any idea how to take a patient's respiration while the patient was talking. She made her point... At a Dad's meeting the other night one of the fathers thanked me for having so thoroughly covered the subject of boy problems but he still had a question. His boy smelled like a goat and he wanted to know what he could do about it. There have been many racial conflicts over obnoxious odors. Some orientals tell us that the white race is a great offender, with an odor like a cow....The movies shown at staff meeting today were made in our own department of visual education. Two cameras and plenty of light were used throughout. A certain number of retakes had to be made, but all in all very little film was wasted. The film has become so popular that several reprints have been made including one which is being sent to South America. Funds for the film came from the Department of Postgraduate Medical Education....The Travel Club will be special guests of the department of obstetrics and gynecology on Saturday, November 21. A full day's program has been planned at the Center for Continuation Study.... Football movies will be shown as usual on Friday, November 27, the day following Thanksgiving. This is an annual custom. No bulletin will be issued that day. The movies will consist of the highlights of each game, and the narrator will be Ralph Piper. During the many years these pictures have been shown we have seen Minnesota up and Minnesota down, more often up, but the editors have always seen fit to include good shots from both sides....General Hospital 26, which is no longer in this country, will receive its Christmas present in good time. The men who went to the west coast will also get theirs at the holidays. An attractive selection of worthwhile materials to help them idle away their spare moments, if any, was sent. Playing cards and games are at a premium in most countries. The good work of Dr. Dennis and his associates is appreciated by the staff and I am sure the units will enjoy their Christmas presents.....

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IV. BABIES (Cont.)

2. Dr. and Mrs. Charles B. Craft, a girl, Carol Louise, November 5, 1942, in Bozeman, Montana.