Case of Carcinoma of the Colon treated by Resection.

The patient was a woman aged 56. She came to the hospital with symptoms of increasing difficulty in getting the bowels to act, alternating constipation and diarrhoea, and occasional traces of blood in the stools. She also complained of a pain in the left iliac fossa, and a feeling that she wanted to relieve her bowels, without being able to get relief. An examination with the sigmoidoscope showed nothing beyond a little blood and mucus on the walls of the bowel high up—a rather significant finding. A barium enema showed a filling defect in the middle of the pelvic colon. This examination was repeated and the same appearance was found. It was pointed out how important it is to repeat X-ray examinations, as accidental appearances can be most misleading. The patient was kept in the hospital for a week, and her blood and blood urea tested; her colon thoroughly washed out and she was given glucose for two days prior to operation. The operation was performed under avertin anaesthesia and regional anaesthesia with 2 per cent. novocain. A diagonal incision was used and the tumour exposed and drawn up out of the wound. The bowel was divided above and below the tumour and the latter removed together with a wedge-shaped portion of the mesentery. The bowel was then joined by end to end union with catgut. The first suture taking up all the coats and the second the serous coat only. The omentum was stitched over the line of union to prevent the small gut becoming attached to it. A temporary tube caecostomy was performed at the same time by the author's method.

This patient has made an excellent recovery and will be getting up in a few days. The temporary caecostomy has now healed twelve days.

INTRA-UTERINE GLYCERINE IN THE TREATMENT OF GONORRHOEA.

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Intra-Uterine Glycerine in the Treatment of Gonorrhœa.

Some twelve years ago my friend the late Remington Hobbs demonstrated to me the treatment of the septic uterus by glycerine irrigation, with the suggestion that his method might be useful in the treatment of gonorrhœa. This was so, and since then the advantages of drainage treatment over the application of caustics have been amply proved.

Indications.

Any signs or symptoms which lead one to suspect that gonococci have passed that natural anatomical barrier, the internal os, and invaded the uterus indicate that the introduction of glycerine into the uterine cavity should be carefully considered.

The gonorrhœal cases for which intra-uterine glycerine may be advisable can be

divided into three large classes according to the extent of the disease : (1) Uterine infection (a) acute ; (b) chronic ; (2) uterine infection with diseased tubes ; (3) uterine infection with gonococcal metastasis, e.g., rheumatism, arthritis, tenosynovitis, iritis.

Uterine Infection.—(a) *Acute Cases.*—As soon as the initial vulvitis and vaginitis have subsided (generally within two or three days) the patient should be carefully examined and the extent of the damage estimated as far as possible. At first it is wise not to enter the uterine cavity but only to initiate drainage by filling the cervical canal with 1 or 2 c.c. of glycerine. A large quantity injected into the uterus at this stage is liable to cause pain and collapse. As the inflammation subsides the uterus becomes less sensitive and the desirability of intra-uterine treatment should be discussed, as at this stage the disease may be shortened and the risk of future complications lessened if intra-uterine glycerine is judiciously employed.

Definite indications of this may be present such as : pyrexia, high pulse-rate, nausea pelvic discomfort, persistent backache, pain in the hypogastrium, and even vomiting. Most cases of gonococcal endometritis have no rise in the temperature or pulse, but a profuse purulent discharge from the cervical canal, a cervical erosion, and a soft, boggy, tender uterus which may or may not be enlarged. Uterine pain suggests endometritis or an obstructed uterus, and the most valuable indication for intra-uterine glycerine is the bimanual sign of a tender or painful boggy uterus. Unfortunately many gonococcal cases nowadays have an insidious course ; symptoms are few and the tissue reaction is slight. In these cases, and the percentage is not small, it may be a mistake to assume that the uterine cavity is free from infection if the patient feels comfortable. Pathological tests show the truth of this.

(b) *Chronic Cases.*—Practitioners have been so accustomed for years to follow textbook teaching and to believe that the chronicity of gonorrhœa in the female is due to the difficulty in destroying gonococci in the compound racemose glands of the cervix, that it is not realized that in many of these cases the nidus of infection is in the endometrium. The result is that when the treatment of the uterus is neglected, the condition frequently becomes chronic and is considered incurable by many.

In addition to the indications described under acute cases (a) of which the tender enlarged, boggy uterus is the most satisfactory, the following may be present : erosion of the cervix, irregular or unusual menstruation, such as prolonged, painful, or profuse loss.

An erosion is not always seen ; in those who douche regularly and efficiently this sign is absent, although gonococci may be isolated from the, sometimes scanty, secretion in the cervical canal. A little thick pus may be noticed exuding from the cervical canal at one or other corner of the external os, while the rest of the secretion often seems normal and transparent.

An obstacle in the cervical canal to free drainage from the uterine cavity, such as retroversion, acute anteversion, overloaded rectum, deformity of cervix causing a tortuous or elongated canal, swollen and congested mucous membrane, blood-clot or thick viscid discharge, œdema of cervix.

If the patient has also contracted syphilis, œdema of the cervix may obstruct the canal. In over 40 per cent. of primary syphilitic cases the chancre is on the cervix or

in the cervical canal, and 7 per cent. of these are accompanied by oedematous induration.

After abortion or confinement to prevent extension of disease to the tubes.

In many of these chronic cases, it is very difficult to be sure that the infection has not reached the uterus, and even if it has not ascended above the internal os the surest and most efficient method (and the quickest in healing an erosion which is only a sign of higher infection) to obtain drainage from the endo-cervical tissues is to place glycerine in the uterine cavity above the cervix. Indeed, the flow of body fluids is so stimulated that the patient must be warned about spoiling her clothing and bedding.

Although some fear that this form of treatment raises the incidence of salpingitis, my experience is that it is lessened, not increased.

(2) **Uterine Infection with Diseased Tubes.**—Any sign of salpingitis, such as tender or thickened tubes, sharp pain, sensitiveness, or rigidity in the right or left iliac fossæ or in the hypogastric region, pyrexia, rapid pulse or vomiting may be indications for immediate drainage.

Any degree of disease in the tubes from a catarrhal salpingitis or perisalpingitis to a pyosalpinx or hydrosalpinx may benefit, and a major operation be averted. I have known many such cases, and no case where harm was done by this expectant treatment.

Patients with such a severe degree of pelvic peritonitis that immediate laparotomy is imperative are infrequent in venereal practice.

Intra-uterine glycerine can be extraordinarily effective in many cases of salpingitis of average degree. The catarrhal type and those of average severity generally do well, and further extension of the infection is prevented. The pain is relieved and the temperature is reduced generally within twelve to twenty-four hours.

Even in the severe cases of pyosalpinx, the rapidity (two or three days) with which the mass felt bimanually decreases in size after uterine drainage has been initiated, is sometimes remarkable.

(3) **Uterine Infection with Gonococcal Metastases.**—In most cases of gonococcal metastasis if the affected region, e.g., in gonorrhœal rheumatism, tenosynovitis or arthritis alone is treated, temporary relief may be obtained, but recurrence is almost inevitable. The surest and quickest method of treatment is to attack the genital focus of infection from which absorption is occurring. This is generally in the uterus, cervix or tubes.

The results of intra-uterine drainage are generally most satisfactory. The next day, as with salpingitis, the swelling and pain, e.g., of a gonorrhœal knee, subside, and the patient is comfortable. Generally the temperature becomes normal, remains so for three or four days, and unless the intra-uterine treatment is repeated during this time it may rise again. If this happens the procedure must be repeated and the temperature will again become normal, when in most cases it will remain so. This applies to other metastatic conditions and also to salpingitis. The results are not so good in that small percentage of arthritis joints where gonococci have actually reached and entrenched themselves in the synovial membrane of the joint.

Technique.

Remington Hobbs described his own technique in this Journal, and for full details readers are referred to his paper (Vol. VIII, No. 76, page 27, January, 1932).

In the lithotomy position the external genitalia are cleansed with ether, soap and water (1 dr. to 1 pint), mercury biniodide (1:10,000) or other efficient antiseptic. A speculum is inserted and the external os is exposed and manoeuvred into an accessible position. Any speculum which will do this may be used; Fergusson's, Cusco's or Sims' are in vogue. Hobbs preferred a Sims' speculum and used an anterior vaginal retractor of his own design to prevent the anterior vaginal wall sagging and obstructing a clear view of the external os. This is suitable for multiparous women with a large vaginal orifice, but not for nulliparæ or those with a narrow vaginal entrance. I prefer Guttman's speculum, as it can be used in both classes of case. It causes the least discomfort if vaginitis and vulvitis exist and a second instrument is not required to retract the vaginal wall. Speculæ must not be pushed too deeply, but the cervix should be allowed to protrude forward as much as possible. The uterus must not be fixed, the appendages dragged down, or the cervix pulled forward by attaching vulsellum forceps. Trauma by instrumentation or rough examination may cause extension of the infection. The vagina, fornices and cervix, are swabbed with hydrogen peroxide and then with glycerine.

To this stage all techniques of glycerine injection or catheterization are identical, except for minor points, but the actual insertion of the glycerine can be done by different methods.

(a) An open-ended (terminal-eyed) soft rubber catheter, size 2, 3 or 4 English, is gripped at the first inch mark by Hobbs' catheter introducer, or by a long straight forceps without a catch. (One finger is inserted between the handleshafts so that the forceps cannot close so completely that the catheter is occluded, although sufficiently so to grip the catheter firmly.)

Rubber catheters are so soft that they buckle unless they are held rigidly at a point near the external os, but they cause no damage to the inflamed cervical canal or internal os. They do not slip in too easily, as they are not highly polished, but glycerine is an excellent lubricant. They are easily sterilized by boiling.

The size of the catheter is chosen so that it is smaller than the cervical canal and allows the glycerine to drain freely by its side. The tip of the catheter, lubricated with glycerine, is inserted gently into the cervical canal and coaxed, *without force*, through the internal os into the uterus. A Record syringe filled with 2 to 5 c.c. of warm glycerine is attached to the catheter and glycerine is slowly injected into the uterine cavity.

The catheter may be left in the uterus and kept in position there by packing the vagina with a sterile gauze plug soaked in glycerine. The gauze prevents the catheter slipping out of the uterus by keeping the curled-up proximal end of the instrument in position in the vagina. This is the best method to use if obstruction of the cervical canal is present.

The most suitable length of time for retaining the catheter in gonorrhoeal cases is about six hours. Longer than this seems to make the patient restless and to irritate the uterus. However, it is unnecessary to leave the catheter in the uterus unless some

obstruction of the cervical canal exists. An idea of this, and the amount of glycerine required, is obtained when the glycerine is being injected by seeing it ooze from the external os by the side of the catheter. When this happens, a sufficient quantity has been injected and the catheter can be withdrawn. This occurs with most venereal cases.

It is a mistake to force the glycerine into the uterine cavity and to continue doing so until it returns through the external os. Force is not needed ; gentle pressure on the small plunger of a 2 c.c. syringe should be sufficient. If this is not so, the procedure should be stopped and the catheter retained. The few drops of glycerine injected will probably initiate drainage, and the process can be repeated more easily next day.

(b) Some prefer to use a thin, round-ended, gum-elastic catheter because it is stiffer than a soft rubber catheter and therefore easier to insert into the external os, but the point is liable to be caught in the wall of the cervical canal or to cause damage to the inflamed endometrium or the internal os. If this is injured or if force is used in passing through the internal os, collapse and shock of the patient may occur. The chief advantage of this type of catheter, its flexible stiffness, renders it unsuitable for retention in the uterus, while both stiffness and varnish are destroyed by too much boiling.

(c) A long metal uterine cannula attached to a syringe is the simplest way of injecting glycerine into the uterus without disturbing the patient too much. It is the most satisfactory method for dealing with those who have small vaginal orifices, with nulliparæ and with out-patients. With multiparæ and those with a wide internal os, the cannula can be inserted into the uterine cavity, but in many cases this is not advisable or necessary. On beginning treatment, to initiate drainage in acute gonorrhœal cases and in nulliparous cases, sufficient glycerine reaches the uterus if the cannula is passed for about half an inch into the cervical canal up to, but without touching, the internal os. As the inflammation subsides and the patient becomes accustomed to the treatment, the instrument can be inserted further and an increasing quantity of glycerine can be injected without causing discomfort. This method is not suitable if an obstruction exists in the cervical canal to the free drainage of glycerine from the uterus.

Precautions in Technique.

(1) Shock and collapse, sometimes without warning, are liable to follow : (a) too much glycerine under pressure distending the uterine cavity ; (b) damage to the internal os, such as forcing an entrance into the uterine cavity. It must be remembered that the patient is not under anæsthesia.

(2) Avoid trauma from instruments : attachment of vulsellum forceps, dilatation of the cervical canal, swabbing or curettage of the uterine cavity, are unwise and unnecessary.

(3) Use warm glycerine.

(4) Inject glycerine slowly, drop by drop.

(5) Use a small syringe ; with too large a syringe too much pressure may be exerted and the patient may suffer pain and collapse from sudden distension of the uterus.

Frequency of Inter-Uterine Treatment.

With cases of acute gonorrhœa, the best results are obtained if the procedure is carried out daily for the first week or fortnight, using only 2 or 3 c.c. of glycerine each

time. Then the treatment can be reduced to two or three times a week and the amount of glycerine can be increased.

In chronic cervicitis, two or three times a week is the average, while in salpingitis or metastatic cases, only twice a week may be advisable. In these cases, it must be emphasized that to be content because pain and temperature subside with only one intra-uterine procedure is to invite disappointment and recurrence.

An intermittent temperature, the recurrence of low abdominal pains, the return of rheumatism or fluid to a joint, or the repetition of the difficulties of menstruation, such as dysmenorrhœa, are all indications for repeating the treatment. Time is saved, however, if the procedure is repeated before these happenings recur.

Additional Treatment.

Although many think that instrumentation is contra-indicated in acute gonorrhœa, better results are obtained if from the beginning, in addition to the usual douching, a speculum is gently inserted and the vagina is flooded with glycerine at least once daily. This has a soothing effect, reduces inflammation and irritation quickly, shortens the duration of treatment and lessens the chances of chronicity.

Gonococci in the cervical glands and uterine wall are too deep to be reached by astringents or caustics. The suction instruments devised are unsatisfactory and approach through the blood-stream by vaccines is disappointing. The best alternative at present is to utilize the hygroscopic qualities of glycerine to dehydrate the infected tissues and drain them of offending organisms. Glycerine is entirely suitable as it is a bland, odourless antiseptic, which is bactericidal even to streptococci.

A yard-long gauze drain saturated with glycerine is packed through a speculum into the fornices and up to the cervix. It is replaced every day after a hot douche. Tampons become sodden, act as plugs and waterlog the tissues around, so they are unsatisfactory for continuous and prolonged use.

The gauze drain, when inserted properly, is quite comfortable, but it is not used during pregnancy or if salpingitis is a complication; instead, the cervix and fornices are swabbed with glycerine daily.

With this treatment, discomfort, backache and practically all discharge disappear within three weeks, but it takes two to four months to render the average case free from infection.

Summary.

Intra-uterine glycerine, theoretically and practically, is a rational means of treating female gonorrhœa. It is one of the most efficient methods of attacking "blenorragica haute" and also of destroying gonococci in the lower genitalia, i.e., in the infected cervical, urethral and vaginal ducts and glands.

The results are satisfactory; symptoms are relieved as quickly and pathological tests are cleared as soon, if not sooner, in this way as by any other course of treatment. With careful technique the incidence of salpingitis is not increased.