Section of Proctology

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[*January* 11, 1950]

Complications of Rectal Injections

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THE injection treatment of hæmorrhoids which I believe was first evolved outside the medical profession has now secured a wide adoption within it. Providing an easy way out of a humiliating dilemma, it is much appreciated by the public and the profession also likes the method because it avoids an operation which even the most ingenious have found hard to make comfortable.

Like every other method it naturally has its complications and, as they are to a great extent avoidable, the preparation of this paper was thought to be worth while.

Allergic manifestations and pyrexia occasionally are encountered and this most probably was due to the oily medium rather than the 5% phenol. During the war when the medium was changed from almond to arachis oil, there were numerous complaints of dizziness and fever lasting for two or three days and occasionally the appearance of an urticarial rash. Almond oil seems to be free from these disadvantages.

Hepatic disturbances probably arise from intravenous injections with a condition of oil embolism of the liver resulting. I have had 2 cases of this, the patients being severely ill with epigastric pain and muscular guarding, a sharp pyrexia and even a rigor. In 1 case the victim was a medical man (a radiologist) and he was quite sure that he had perforated a long-standing duodenal ulcer. Radiological examination revealed no gaseous crescent and the condition got well in three days. In the other case the acute painful stage was followed by a transient jaundice and a swollen tender liver. The moving of the point of the needle during injection if the submucosal wheal does not rise should avoid this complication, which can be very alarming.

Necrosis and hæmorrhage seems to occur in cases where a second course of injections is being repeated after an interval. The previous scarring prevents even spreading of the oily fluid, so that excessive tension and blanching is produced and the mucosa undergoes necrosis. The ulcer produced being above the area of sensation, no pain is produced, but the patient notices the bloody discharge and the rectal irritability. To prevent this complication the second series of injections should be placed in the gaps between the standard pile positions and the wheal should not be completely blanched by too forceful injections. Massage of the affected area with the finger should be given after each injection is completed so as to spread the oily fluid.

The bleeding from necrosis is rarely severe nowadays, but it was serious in the old days when pure carbolic or the glycerin of carbolic was used and stories were current in past days of fatalities from this cause.

Thrombosis and prolapse of the pile mass may follow injection. This is generally the result of injecting too low in the anal canal so that the injected and later the inflamed area may prolapse. The condition produced is the well-known one which used to be described as strangulated piles and while at its height the patient is unable to think of getting out of bed.

This condition is prevented by injecting the root of the pile above where "the purple joins the pink" as it has been aptly put. Furthermore, when prolapse is a marked feature it is inadvisable to inject for fear of this complication and on general considerations as well.

A *gangrenous condition of the anal canal* occasionally occurs and I recollect one such case demonstrated by the late Mr. Simpson-Smith. Rectal symptoms sometimes occur in agranulocytosis and make the patient seek injection treatment and I felt that this was the underlying condition in this case. Severe diabetes is also a contra-indication to pile injections and old and debilitated subjects are best left alone for fear of this phagedænic condition.

Genito-urinary complications are extremely important and become the subject of litigation because they are undoubtedly the fault of the injector. They occur only in the male subject and when the anterior pile is the target of the injection.

The 10 c.c. of oil are deposited in whole or in part into the prostate, the urethral wall, or even the seminal vesicles and may lead to any of the following conditions : (1) Retention of urine. (2) Hæmaturia. (3) Oleouria. (4) Hæmatospermia. (5) Prostatic necrosis and abscess. (6) Stricture of prostatic or membranous urethra. (7) Abscess of the seminal vessels. (8) Epididymitis which not infrequently breaks down to form an abscess. (9) Testicular atrophy which may be bilateral. (10) Chronic cystitis. (11) Recurring pyelonephritis with its consequences. (12) Renal calculus as a result of chronic infection. (13) Urinary fistula in the perineum from drainage or rupture of a prostatic abscess.

Six cases of this group have been actually encountered.

Three had retention with hæmaturia; all of these recovered completely, but in two the urine became infected as a result of the catheterization. There was one case of stricture of the prostatic urethra and this patient developed bilateral epididymitis with suppuration and secondary atrophy of the testicles and chronic prostatic abscess (drained rectally) and bacilluria. This patient required periodic dilatations of the stricture and on one occasion when this was done outside the shade of the chemotherapeutic umbrella, fulminating pyelonephritis with a three-day suppression of urine resulted. He has recently died from a carcinomatous colon.

The fifth case was one of prostatic stricture with atrophy of one testicle, prostatic abscess and recurring pyelonephritis. This patient also has a urinary fistula in the perineum where the prostatic abscess ruptured.

The last case developed a renal calculus and chronic resistant bacilluria associated with prostatic abscess. This bacilluria case has resisted all attempts at cure although the renal stone has been removed.

These cases need never occur if a good view of the area of injection is obtained and the wheal is observed to rise steadily during the process of injection. For this purpose a slotted speculum such as Perrin's is the best. I believe the Kelly's speculum does not allow the wheal to develop as it should and it also prevents the anal landmarks from being seen so that the injections may be made too high. Needless to say the needle should not be pushed through any resistant tissue nor should the injection fluid be forced in against strong resistance and any complaint from the patient of penile pain or micturition desire should be a warning to stop and take bearings.

Should hæmaturia or retention occur immediately after injection, it would be a good practice to incise the tense swollen prostate through the rectum and allow the oil to escape the way it got in. I have never had the opportunity to do this as the cases which came my way were not seen until the complications were well established, two of the cases were not encountered till one year after the commencement of trouble. In one of these cases, however, the prostatic abscess was incised through the rectal mucosa with benefit.

Injections of proctocaine for anal fissure sometimes result in very extensive abscesses. It is probable that the fissure has already induced a small satellite abscess in these cases and the deposition of a quantity of oil in the vicinity results in a rapid extension of the sepsis.

It is wise before injecting these cases with oil to secure a novocain anæsthesia first and then to make a very full examination and bi-digital palpation of the perianal tissues. It is very hard to explain away this abscess to the patient, immediately after the injection for which possibly too much was promised. In a recent case I opened a most extensive ischio-rectal abscess eighteen days after a proctocaine injection for a fissure and this patient developed an endocarditis from a *Streptococcus fæcalis* for which no chemotherapy availed.

Proctocaine injections for pruritus ani may similarly cause abscesses and also necrosis of the skin with ulceration. There is a certain school which employs alcohol for these injections and they anticipate cutaneous gangrene in nearly every case.

Mr. W. B. Gabriel: At St. Mark's Hospital we seldom use anything but the 5% phenol in almond or arachis oil, and I agree with Mr. Dickson Wright that special care must be taken when dealing with the right anterior pile. Our teaching is that the best and safest proctoscope is a tubular proctoscope of the Kelly type and personally I only use the Perrin proctoscope for minor procedures such as excision of hypertrophied anal papillæ.

As regards oil-soluble anæsthetics I am sure that they should not be used for deep chronic fissures, especially when there is evidence of infection at the base, and even in the superficial fissures there is good reason to believe that equivalent relief can be given by use of surface anæsthetics such as 3% decicain or anethaine ointment rather than by deep injection of an oil-soluble anæsthetic solution with its potential risk. So far as injection therapy for pruritus ani is concerned I join issue with Mr. Dickson Wright when he says that this is a current and accepted method of treatment: I find that most cases of anal pruritus are amenable to local or general treatment, and whatever the cause may be the patients have to learn not to scratch. The responsibility for stopping the scratching habit must surely be with the patient, and I believe it is a mistake for injection therapy to be given since then the surgeon tends to take upon himself responsibility for cessation of itching and the patient underestimates the effort that is required on his part. I have not injected a case of anal pruritus now for several years.

Mr. E. T. C. Milligan: In the treatment of first and second degree hæmorrhoids we find that the injection treatment provides a safe remedy. At St. Mark's Hospital day after day and year after year in the large out-patient clinics injections are made by surgeons and their assistants and no complications are seen except, rarely, a small superficial ulcer on the mucosa giving a little bleeding but no inconvenience, and it soon heals.

Complications can be avoided if the right solution is put into the right place.

The solution is 5% phenol in almond oil in doses of 3 to 4 c.c. injected submucously into each of the three piles according to size. So safe is the injection that some venture to put as much as 10 c.c. into one large pile.

The glycerin solutions now discarded acted with intolerable uncertainty so that after injection patients sometimes had to be admitted with hæmorrhage from deep ulceration more serious than severe cases of secondary hæmorrhage after hæmorrhoidectomy. They needed local treatment together with blood transfusion. Pain, too, occurred sometimes exceeding post-operative pain.

With the decision to use only the 5% solution of phenol in almond oil, confidence in injection treatment returned, fear and uncertainty of subsequent dire complications were banished.

The place and site of injection.—The place of injection is in the submucosal space of the pile around the blood vessels. The mucosa is about 1 mm. thick so the needle should not go deeper.

A sharp stab with a lightly held and balanced needle and syringe will convey the impression through the hand that the needle has pierced the mucosa and reached the space under the mucosa. Here the needle can be freely moved with the mobile mucosa which could not be done if it had entered the muscle wall or extra-rectal tissues. The first few injected drops will balloon out the vascular mucosa and so further verify that the needle is in the right place.

The site of injection is the ano-rectal ring where the rectum ends and the anal canal begins; an easily observed locality for here a ring of mucosa first closes into the lumen of the tubular proctoscope like the shutter action in an iris diaphragm as the proctoscope is withdrawn from the distended cavity of the rectum into the anal canal. This site is the pedicle of the pile at its junction with the internal pile and further identified by the pink colour of the mucosa.

Solution injected at this locality will freely spread up into the pedicle and down into the internal hæmorrhoid as far as the intermuscular septum. This septum separates the insensitive part of the pile from the sensitive skin covering the external pile below.

Success and safety of injection depend on the knowledge of the surgical anatomy of the part and the recognition of the parts of the pile more than on the kind of instruments used.

The overlooking of co-existing lesions in rectum and colon is a serious matter.

In perianal injections of proctocaine necrosis of skin can only occur if injections are wrongly made into the skin or between the skin and the corrugator cutis ani muscle. Such a complication is not serious, the slough will soon separate and the wound will heal.

Should infection follow perianal or submucous injection, a very rare happening, it would happily be confined to the submucous and perianal spaces. The resulting abscess or fistula could easily be dealt with. Should the injections be wrongly put extra-rectally or into the ischio-rectal fossa, a serious abscess or fistula requiring extensive operations and much time in healing would result; so injections into the ischio-rectal space should be avoided.

It should, however, be stated that perianal and submucous infection and abscess are the rarest of complications; an arresting fact when one reflects on the bacterial population of the coverings through which the puncture is made.

Mr. S. O. Aylett: Following the third injection for hæmorrhoids, a colleague of mine developed acute pain in the region of the liver. Within ten minutes of the treatment the pain was severe and the patient had to retire to his bed.

Within twenty-four hours the liver had become enlarged to two fingerbreadths below the costal margin, and mild jaundice resulted. He was confined to his bed for ten days before the condition subsided.

The injection was in no way different from the hundreds performed in proctological practice. No blood was withdrawn into the syringe before injection with 5% phenol in oil, and the treated hæmorrhoids ballooned up in the usual fashion. In spite of this it seems certain that some of the phenol had entered a vein and had been carried to the liver via the inferior mesenteric vein.

Recovery from the complication has been complete.

Three Unusual Cases of Colitis Treated by Surgery

By E. C. B. Butler, F.R.C.S.

The term colitis or ulcerative colitis has often been applied to any inflammatory condition of the large bowel for which no definite cause could be found. The time has now come when the term ulcerative colitis should be reserved for those cases where the whole or distal part of the colon is involved by disease and where the ulcerated mucosa has been demonstrated at sigmoidoscopy.

Segmental areas of colitis or those infections attacking the proximal colon should, I suggest, be placed in a separate category since their prognosis differs from true ulcerative colitis; if surgical treatment is required an ileostomy is rarely needed and their response to less drastic methods is most encouraging. The following 3 cases were all diagnosed: "? ulcerative colitis" at one time or another; none of them ever showed the true sigmoidoscopic picture of ulcerative colitis.

Case 1.—Female aged 23.

History.—Twelve months' gradual onset of diarrhœa and colicky abdominal pain; she lost 2 st. in twelve months. For the last three months she had noted a lump in her abdomen.

8.6.47: She was admitted to the London Hospital with the provisional diagnosis of tuberculous peritonitis.

On examination.—A wasted girl with an irregular pyrexia up to 102° F. Stools showed no pathogenic organisms. There was a large tender swelling in the right iliac fossa. A barium follow-through meal showed a filling defect in the cæcum with spasm and loss of haustration in the proximal colon.

Operation.—18.6.47: Laparotomy. The terminal 6 in. of the ileum were thickened and œdematous to form a tube which was attached to the anterior abdominal wall; this was the lump which could be felt before operation. There were many enlarged glands in the mesentery. The cæcum, ascending and transverse colon were thickened and indurated, the remainder of the large bowel was normal.

The ileum was divided and the distal end embedded some 2 in. above the diseased portion. The proximal end of the ileum was anastomosed end to side into the pelvic colon. After operation a swinging temperature developed and an abscess became evident in the right iliac fossa. Aspiration showed 20 c.c. of pus; culture showed at various times *Staph. aureus*, anaerobic streptococci, and *B. coli.*

The abscess was treated by repeated aspiration and injection of, at first, penicillin and later 1/10 gramme of streptomycin daily for six days. At the end of this time only a little clear fluid was withdrawn and the patient's temperature was normal. She then made a quick recovery and regained her weight rapidly. Since leaving hospital she has attended the follow-up clinic every three months. She has no abnormal symptoms or signs and is able to do her work.