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Clinical Topics

Comparison of Results of Treatment of Hydrocele and Epididymal Cysts by Surgery and Injection

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Summary

A comparison has been made between a series of hydroceles and cysts of epididymis treated by surgery with a complication rate of at least 17% haematoma and 10% sepsis, an average hospital stay of five days, and a much longer time off work, and a series treated by tapping and injection (described in detail) requiring one to three visits to outpatients, an almost negligible complication rate, and no failures in those completing treatment.

Introduction

Hydrocele and cyst of the epididymis may be treated by operation or by tapping and injection. An assessment of the results of both methods with their complications is presented here. Patients with both conditions who had been treated by operation by junior or senior staff members of the Radcliffe Infirmary were reviewed from the records retrospectively from the end of 1973 until 100 had been found who had had no other simultaneous operation on the groin or scrotum (mainly for hernia).

The operations were of all types including excision of the sac, unfolding of the sac, and plication of the sac through a small incision, depending on the size of the swelling and the operator's inclination.

Results of Operation

The total number of patient-days averaged just over five, with 64 patients spending one to five days and 46 patients spending over five days—a total of 504 hospital-bed days. Forty-two complications were recorded and some may have been unrecorded as this is a retrospective study; there were 17% with haematoma, 10% with sepsis, and 15% with "swelling with induration" (clearly used as a euphemism for haematoma at times). The time off work would have been a minimum of two weeks and much longer with some, one patient being off work

for at least 10 weeks. At times scrotal bandaging was used to diminish the high incidence of haematoma and the less traumatic plication operation was also employed, notation being inadequate to allow a true analysis of these points. Nevertheless, on analysis, the complication rate was surprisingly high.

COMMENT

Treatment by tapping is often employed in those needing immediate relief or those refusing operation, but most doctors do not use an injection in such patients. I have used tapping and injection for over 20 years for the small and medium-sized hydroceles, with surgery for the large ones, but the method for the larger ones has been tried only in the last few years. Only when an attempt was made, two years ago, to assess the results from the outpatients' notes was it found that the latter were not included in the excellent disease and operation index of the hospital and their recovery for analysis would have been a Herculean task for the record clerks. So a prospective study was made of the patients treated through part of 1972, '73, and early '74 to provide a retrospective sample.

Results of Prospective Study

Cysts of the epididymis numbered 18 in 14 patients, the largest three being 420 ml (14 oz), 360 ml (12 oz), and 250 ml (8 oz). Five patients made one outpatient attendance for tapping and injection, seven made two, five made three, and one made six.

Fourteen hydroceles in 12 patients were treated to cure, the largest being one of 650 ml and two of 600 ml. One patient with a 700-ml hydrocele asked for surgery after two injections (a small one of 20 ml on the other side being cured with one injection) and was not discouraged from operation.

Two patients at the second visit were noted to have nodular testicles, with blood-stained fluid in one after tapping, and were promptly explored in case of any remote possibility of tumour; both proved to have some fibrin accumulation only.

Five patients attended once for tapping and injection, three attended twice, and four attended three times; for a hydrocele of 650 ml eight visits were made, but this patient was lost to my view and quite inadequate amounts were injected. My staff did some of the treatments, as service exigencies made it impossible for me to do them all. Generations of students have had the method demonstrated to them, almost all of these treatments being given in an outpatient session.

In this series there were no complications of haematoma or sepsis, but in the hundreds treated in the last 20 years I have produced two cases of haematoma (due, no doubt, to pricking a largish vessel in tapping) and one of sepsis, undoubtedly following a haematoma. The

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solution used contains 2½% phenol and doubtless helps in keeping sepsis at a minimum.

Almost all patients have said that they prefer to have the injection treatment to avoid surgery, a stay in hospital, and a week or two off work.

Method

Transillumination should be used to determine that fluid is the cause and also to locate the testicle. A small cystic swelling requires only a needle but for the larger ones a small but adequate cannula is better. The needle or cannula must be pushed well towards the other side of the swelling and held there so that, on tapping the fluid, the collapsing wall does not slip over the end of the instrument. A blob of local anaesthetic, with a little in the cellular tissues, is all that is required and a sample tap made.

The lowest point of the scrotum must not be used to tap and inject; otherwise the sclerosant will seep out, by gravity on standing, from the puncture hole into the cellular tissue and cause pain, which may sometimes be quite excessive. This is a common mistake and has brought the method into disrepute. The middle or upper part of the swelling is chosen. The sac should be completely emptied by squeezing gently and then syringed out with a sclerosant fluid to clear any remaining fluid which would dilute the sclerosant. About 5 ml of sclerosant should be injected for cysts up to 15 ml and up to 20 ml for 400-600 ml swellings. Bandaging of the scrotum, when possible, has not been used, though this might be an advantage.

The patient is seen again in four to six weeks and the scrotum retapped, when a darker fluid indicates that the injection has had a good effect. There is always a reaccumulation, patients being warned of such to save worries. If the fluid is much darker there is no need to do more than tap the fluid away and that is usually an end to it. Cysts of the epididymis may be resistant and may need a bigger dose. A little experience will indicate whether further tapplings and injections are required. The introduction of the fluid is mostly quite painless, a few patients feeling a little discomfort in the iliac fossa. Nevertheless, pain to any degree means that the fluid is outside the sac, which is most likely with smaller cysts of the epididymis, when the needle slips out of the sac; to prevent this, gentle rinsing in and out with a little fluid before full injection points to the site of the end of the needle.

The solution I use is 2½% phenol, 25% glucose, and 25% glycerine, a long-established injection for sclerosing veins; recently phenol alone, prepared by the hospital pharmacy, has been tried and appears to be sufficient. Other sclerosants used for varicose-vein injection may also be used successfully, such as sodium tetradecyl sulphate (JTD). If the latter is preferred the same dosage can be used. Most other solutions tried may produce some pain and perhaps allergies.

Discussion

Many patients do not like surgery and who can blame them. Those treated by injection are mostly quite content to attend

an outpatient session on one to three occasions for cure with less pain, if any, than with surgery and the minimum of disturbance to their lives with time off work usually only on the day of treatment. Many patients refuse surgery and are tapped at intervals, perhaps often, as with some of those in this series before an injection was used, whereas an injection after the tapplings will usually cure the condition.

Almost all patients are treated during or at the end of outpatient session. No scarce and costly beds are used, except when there is doubt. All small and medium cysts and hydroceles up to 400 ml can be cured in one to three sessions. The large ones may also be treated with success and it may be well worth trying to treat them when surgery is refused or the patient's condition is not good. Whether all large hydroceles may be obliterated by an acceptable number of injections has not yet been established by adequate numbers, though my results suggest that they may; in the meantime surgery may be advisable, even though operative treatment of the large hydrocele is notorious for its complication of haematoma or swelling with delay in hospital discharge and return to work. Multiple cysts may be treated by injection if there are only two or three, but are, on the whole, best treated by surgery; if not diagnosed initially, they may be responsible for an apparent recurrence. When hernia and hydrocele exist together, especially on the same side, one would treat the hydrocele surgically when repairing the hernia, but such hydrocele operations have a high incidence of haematoma owing to congestion of the cord vessels. Careful surgery, by an experienced surgeon, with great care in haemostasis, will produce better results than the surgical results shown here, and minimal interference with the sac in hydrocele, as in the plication advocated by Lord¹ and in careful dissection of a cyst² are a great improvement; but there is no point in using any unnecessary surgery.

This approach to the cure of cysts and hydroceles is exactly comparable with that of varicose veins, where outpatient injection treatment is now mostly used for small and medium-sized veins, and surgery reserved for large veins or complicated cases. Furthermore, treatment by tapping and injection does not necessarily need a visit to hospital but may readily be carried out in a consulting room, as in the injection of varicose veins.

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