TREATMENT

Here I need only consider broad principles, for treatment in women does not differ materially from that in the male. Women, as a rule, stand anti-syphilitic medication extraordinarily well. They have fewer complications; they are less liable to the toxic effects of metallic poisoning than men, and relatively can stand more intensive treatment. It must be remembered, however, that owing to their smaller body weight they require smaller dosage. Few women need larger single doses of neo-salvarsan, or its substitutes, than 0.45 gram; and the average course of such arsenical preparations should not exceed half a gram per stone—that is, a ten-stone woman requires 5 grams of neo-salvarsan in one course.

I always give a course of mercury or bismuth simultaneously with the arsenical medication, because I am a strong believer in the curative effect of the slow metallic intoxication produced by these drugs absorbed gradually and persistently from reservoirs in the buttocks, and I have no belief at all in the permanent curative effects of arsenical preparations.

I understand that it is the custom at some ante-natal clinics to treat pregnant women with arsenic alone. I have seen a considerable number of such cases, treated elsewhere, and I find that these are just the sort of cases which surprise one by having a positive Wassermann in their cerebro-spinal fluid, which further treatment is often unable to influence. Whatever we may consider this reaction portends, no one, I think, would care, wittingly, to risk producing it in his patients. It is said that by giving bismuth, or mercury, intramuscularly to pregnant women we thereby increase the chance of miscarriage. This has not been our experience at the London Lock Hospital, where we have many of these cases under observation for months as in-patients.

Bismuth is well tolerated by women, most of the newer preparations being painless, and rapidly effective, clinically. If I am giving it with arsenic, I like to give it once a week. If I am giving it alone, I use it twice a week. In the combined treatment I favour preparations which depend on metallic bismuth for their efficacy, rather than the more soluble forms. If I am using bismuth in cases intolerant to arsenic, I prefer the soluble preparations, because then one is anxious to have the most rapid absorption possible.

Mercury is not so well borne by women as bismuth. It is more painful intramuscularly, and it produces gingivitis more rapidly. For some six or eight years recently it has been rather under a cloud, having been ousted from pride of place by bismuth. But in the last year or so it has been regaining ground, since clinicians began to realize that the results of experiments on rabbits need not be authoritative for man, and that negative Wassermann results are no real indication of the efficacy of cure. It should, of course, be given in conjunction with arsenic. It is possible that time may show that its permanent effects are more lasting than those of bismuth. At present the question is still *sub judice*, with a bias in favour of the newer drug.

CONCLUSION

To sum up briefly then, I should like to emphasize the general consensus of opinion that syphilis in women, as individuals, is milder than in the male, more amenable to treatment, less liable to late nervous and vascular sequelae. But on the other hand, as regards the next generation, it has been until recently the most deadly curse to which the race is subject. I stress the word recently, for now I think that even in this direction we can face the future with greater optimism; for, with the possible exception of cases with Wassermann-positive cerebro-spinal fluid, which will not yield to treatment, I believe

that with modern methods there is no longer any necessity for any woman to have a syphilitic child, provided she is treated adequately as soon as diagnosed, and has a full course of further treatment during each succeeding pregnancy.

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NON-OPERATIVE TREATMENT OF CHRONIC HYDROCELE OF THE TUNICA VAGINALIS

BY

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Every practitioner is familiar with the patient, suffering from the acquired type of chronic hydrocele of the tunica vaginalis, who refuses an open operation for various domestic reasons. The patient would willingly undergo "tapping" and the injection treatment if he could be assured that the treatment would not interfere with his normal testicular function and that he would be cured.

During the past five years I have performed the injection treatment on ten private cases, in none of whom has there been any recurrence within three months to three years. Impotence occurred in one case for about six months, otherwise normal testicular function was maintained in all. No direct cause could be assigned to any case from an investigation of the fluid withdrawn from the sac.

AETIOLOGY

The tunica vaginalis is of the same histological structure as the peritoneum and has the same morphology. There is also a similarity in the pathological changes occurring in each. It consists of a single layer of flattened epithelium resting upon fine connective tissue, in which run lymphatic channels. Between the endothelial cells stomata, arranged irregularly, communicate with the lymphatic spaces (Schafer). This fact is refuted by some histologists. The endothelium is richly supplied with blood vessels. Nerve fibres travel along these vessels to the endothelium, where they form a fine plexus (Quain). These anatomical data present three possibilities as to the cause of hydrocele—excluding any direct cellular disorder: (a) nervous; (b) vascular; (c) lymphatic.

Increased nervous stimulation would probably lead to excessive endothelial secretion (as also would increased vascularity), but not of sufficient amount to produce a hydrocele. Furthermore, in those cases upon which I have operated, I have not noticed any marked inflammatory changes.

Lymphatic obstruction seems the most probable cause, since this is certainly the cause in hydrocele due to the *Filaria bancrofti* occurring in the West Indies. The fluid removed from a filarial hydrocele is identical with that from the ordinary hydrocele. The filaria mostly cause

the block in the glands. Is it not possible the *B. coli* may not cause the same obstruction by direct infection of the glands from the bowel? Constipation is generally marked in these cases. If the hydrocele were tapped once, the bowel irrigated by the suda bath method, and the alkaline reserve of the blood maintained, it is possible that, if the glands had not become too fibrosed by inflammation, medical treatment might suffice for a cure.

RATIONALE OF INJECTION TREATMENT

Small quantities of iodized phenol are injected into the cavity of the tunica vaginalis, with the object of cauterizing the endothelial surface, closing the stoma, and causing the two surfaces of the sac to adhere together—thus closing the cavity completely. If an inflammatory reaction is produced in this way, during the process of healing, protoplasmic buds are sent out from the surfaces, which adhere to form a fibrosed mass. Unless the fluid injected is equally distributed over the surface of the endothelium, loculi will form, and recurrence will occur more easily. Also unless the fibrosed mass—in fact before it has time to become too fibrosed—is massaged regularly inflammatory reaction will be set up in the testis, and may cause impotence.

TECHNIQUE OF METHOD

The amount to inject in each case must be decided by the general condition of the patient and the size of the hydrocele. Not more than 5 c.cm. should be injected at any one sitting or serious inflammatory reaction will occur. It is better to commence with 2 c.cm.

The patient is placed in the lithotomy position on a genito-urinary table and the entire perineum and scrotum cleansed with ether soap; surgical methylated spirit is applied, which partly anaesthetizes the area. The surgeon stands in front of the patient and with his left hand applies pressure from above downwards from the upper part of the scrotum, so that his fingers lie behind and can palpate the testis. A 20 c.cm. Record syringe, fitted with a full-size needle, is used. The needle is thrust through the scrotal tissues in an upward direction, carefully avoiding the superficial vessels. On piercing the sac all resistance disappears, demonstrating that the sac has been entered. All the fluid is withdrawn with the syringe. Then, with the needle still *in situ*, iodized phenol (4 parts iodine to 2 parts phenol, 3 minims for every ounce of fluid withdrawn is safe) is injected into the sac through the same needle. This is removed as soon as the injection has been completed, and the scrotum is massaged for about five minutes. A collodion dressing is applied to the needle puncture. The patient usually experiences a burning sensation for a few minutes. Sal volatile should always be at hand, as the patient sometimes feels faint.

After treatment the patient should rest in bed for twenty-four hours with the scrotum supported upon a pillow, and should there be any pain, a lotion such as *lotio plumbi c̄ opio* should be applied frequently on lint.

CASE RECORD

Case IX, a wood-joiner, aged 63, from Suffolk, complained of bilateral hydrocele of four years' duration, which had been periodically tapped by his own doctor. There were no urinary symptoms, no history of tuberculosis, and he denied any venereal disease. Constipation was constant without strong purgatives. Examination revealed no obvious focus of infection or evidence of tuberculosis or venereal disease. He suffered from myocarditis of rheumatic origin, and had attacks of dyspnoea. His general condition would not have warranted an open operation. Locally there was a bilateral hydrocele distending the scrotum to the size of a Rugby football. The size and weight were so great that it was necessary to have a special suspensory bandage made for him.

In view of the patient's poor general health I deemed it wise to refrain from attempting to cure the condition in one sitting. The following treatment was therefore adopted.

September 10th, 1931. Left hydrocele tapped—1½ pints of clear, straw-coloured fluid removed and 2 c.cm. iodized phenol injected. Right tapped—2 pints withdrawn; no injection.

November 23rd, 1931. Left hydrocele—slight recurrence: 6 oz. fluid withdrawn, 3 c.cm. iodized phenol injected. Right—20 oz. fluid withdrawn, 3 c.cm. iodized phenol injected.

February 3rd, 1932. Left hydrocele—no recurrence. Right—5 oz. fluid withdrawn, 3 c.cm. iodized phenol injected.

June 2nd, 1932. Left and right hydrocele—no recurrence. Small fibrosed lump felt in front of each testicle. Testicular sensation normal.

OBSERVATIONS

Hydrocele of the tunica vaginalis is a common condition, usually occurring in middle life.

Injection treatment is simple, effective, and curative, and is not followed by untoward complications.

There is no recurrence or complications such as are sometimes met with after open operation.

No anaesthetic is necessary for injection treatment, and there is the minimum absence from work.

Many cases are associated with constipation, which suggests that the cause may be auto-intoxication from the bowel through the lymphatics, acting as an obstruction to their normal circulation.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

SYMPTOMLESS CORONARY THROMBOSIS

On January 12th, 1932, a retired schoolmaster, 70 years of age, was sitting at the table in a public library, writing, when he collapsed on to the floor and died almost instantly.

HISTORY OF THE CASE

One of us knew the man slightly, and was his family doctor, although he had never attended him professionally as he was never ill. Careful inquiry from his relations and friends has failed to suggest that he had had any symptoms whatever before the fatal seizure. He spent most of his time reading novels in front of the fire, smoking innumerable cigarettes—in fact he was never without a cigarette in his mouth. (Levine mentions smoking as one of the possible causes of coronary thrombosis.) He had spent Christmas with his family in London, and enjoyed it with the youngest. On the afternoon of his death he had had tea as usual, and went out about an hour afterwards. He does not seem to have had any difficulty over the two flights of stairs leading to the library nor to have been short of breath. He had been sitting down for about half an hour before he collapsed. He never complained of pain, and any shortness of breath he may have had he attributed to his age. His appetite was good, and his wife never thought he was ill, nor indeed that he was a bit off colour; but one of his friends has since said that he thought the patient looked older and greyer after his return from London early in 1932.

Post-Mortem Findings

At post-mortem he was a well-nourished man, rather muscular for his age. The pericardium contained about an ounce of blood clot. The heart was normal in size, but there was an aneurysmal dilatation half an inch across on the posterior aspect of the left ventricle, over which there was some patchy thickening of the pericardium. Rupture of this area of thinned muscle was the immediate cause of death.

The coronary arteries showed gross senile degenerative changes; the left was the more extensively damaged, its anterior descending branch being converted into a rigid calcified tube, with its lumen irregularly diminished in size but nowhere completely occluded. The circumflex branch, passing down the posterior aspect of the left ventricle, was almost occluded at a point one inch from the auriculo-ventricular groove; thrombosis had taken place just below this narrowing, resulting in infarction of the myocardium. In the process