The tube should be removed about once a month and replaced by a new one. This is easily done with a stilette, which straightens out the proximal end, so that it can be inserted into the bladder.

This method of drainage can only be adopted when a good distension is to be obtained and no previous operation has been performed on the bladder; under such conditions there is no danger of wounding the peritoneum when handling the trocar and cannula. Haemorrhage from the bladder wall need not be feared owing to the pressure of the tube.

When haematuria is present the operation is contra-indicated because the De Pezzer tube is readily blocked by clots.

The operation is most successfully used for cases requiring suprapubic drainage of the bladder owing to deficient excretion of urea, prior to prostatectomy. As local anaesthesia is usually sufficient, the patient undergoes a minimum of shock. Well does the urologist know that the shock of a preliminary cystotomy in cases of threatened renal failure in consequence of an enlargement of the prostate will often cause death. So simple a procedure as the insertion of the De Pezzer tube reduces the shock, and, should the kidneys recover their full function, it permits the removal of the prostate without the difficulty caused by the scarring of the abdominal wall.

In cases of carcinoma of the prostate patients find the utmost relief from this method of bladder drainage; they carry on their work and experience no discomfort apart from washing out their bladders.

ANTIMONY IN LEPROSY.

BY

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THE beneficial effects of various preparations of antimony in the treatment of lepers show that they are not confined to the colloidal preparations of the drug. I have recently had the opportunity of seeing a number of leper patients who have been treated with intravenous injections of a 2 per cent. solution of tartar emetic, whilst others have received the antimony in the form of antimonial wine in a cough mixture. One patient who suffered from muscular contraction associated with anaesthetic leprosy experienced such relief from one intravenous injection of tartar emetic that he asked for more injections to be given him. A similar request was made by some female lepers whose legs were covered with extensive ulcers requiring constant dressings. Not only did the ulcers appear to be cleaning up as a result of the intravenous injection, but the patients had experienced relief. The cost of dressings at this leper institution, which contains about 750 lepers, is about £3,000 a year.

An even more striking effect of the drug was seen in a large number of leper patients requiring cough mixture. To the usual expectorant mixture containing squills was added vin. antimonialis mxx to mxxx , t.d.s. This was used as the stock mixture for leper patients, and was rather pleasant to take. Several of the patients found such relief that they continued to take the mixture containing vin. antimonialis mxx for some time after the cough had disappeared. From what has been observed at this asylum it would appear that the use of antimony is particularly indicated in "chest" cases.

The sodium preparation of antimony would appear to give equally promising results. At the Campbell Medical School in Calcutta Dr. Upendra Nath Brahmachari reports that some cases of leprosy seem to have much benefited under treatment with antimony given in the form of tartar emetic in 2 to 5 c.cm. doses of a 2 per cent. solution twice a week. In one case the patient had ankle-drop with marked patches of anaesthesia and leprotic nodules.

Spontaneous disappearance of the active signs of leprosy occasionally occurs in leper patients. I have recently seen such an arrest in a patient who was a partial cripple; but as a rule these spontaneous improvements are gradual, the improvement taking several weeks before all signs of active disease disappear. In the case of Sital, reported in the BRITISH MEDICAL JOURNAL for December 4th, 1920, p. 855, all the ulcers dried up in nine days or after five intra-

muscular injections of Oppenheimer's colloidal preparation of antimony, and, although the patient has been kept under careful observation by his district surgeon since his discharge from hospital, there has been no recurrence of the active signs of leprosy for five months. One must bear in mind, however, that, in view of the possible infectivity of insects with *Bacillus leprae*, exposure to fresh infection is not unlikely when leper patients are allowed to return to their homes. In their *Manual of Tropical Medicine*, 1919, p. 1650, Castellani and Chalmers state: "The difficulty of cultivating the germ on ordinary media is very suggestive of its being accustomed to live solely in animal tissues; while the abundance of the bacilli in the skin is also suggestive of that being the natural method of leaving the body."

It is to be regretted that a pathological laboratory is not attached to each leper asylum. Without such facilities at the institution itself, the means of ascertaining the cause of the spread of the infection and of determining the effect of treatment are very limited.

The healing of the ulcers under treatment with preparations of antimony is probably due to the bactericidal action of the drug; I have noticed a similar improvement in treating by intravenous injections of antimony patients who were suffering from a cloudy condition of the urine due to the presence of *B. coli* or the gonococcus. The immediate improvement that occurs after only one or more intravenous injections in such patients indicates a further way in which antimony may prove of value in the treatment of leper patients, many of whom develop a chronic cystitis, probably associated with paralysis of the bladder and *B. coli* infection. In such cases intramuscular injections of a colloidal preparation of manganese might well be combined with the antimony treatment, as I have sometimes recommended in the treatment of bilharzia cases.¹

In view of the gradual breaking down of the shells of the bilharzia ova during a course of treatment with antimony, the rapid improvement of leper patients may also be due to the action of the drug on the capsule of the bacillus. In the *Medical Journal of South Africa* for July, 1917, Drs. A. J. Orenstein and Watkins-Pitchford confirm the observations of Sir Leonard Rogers as to the value of intravenous injections of tartar emetic in the destruction of crescents in subtertian malaria. In their series of cases the danger of unskilled administration of tartar emetic injections is well emphasized.

Though several other preparations of antimony are much less toxic than tartar emetic and less liable to give rise to local reaction, oscol stibium, which is now being used in at least four different leper asylums in South Africa alone, must be used with as great caution as any other preparation of antimony. Injected into the muscle, this preparation gives rise to practically no local reaction or discomfort, unlike collosol antimonial (Crookes), which often causes pyrexia and local swelling. Intravenously oscol stibium can be injected up to 12 c.cm. at least without toxic symptoms, provided the dose is gradually increased from an initial intravenous injection of 1 c.cm. In cases of leprosy oral administration of the drug may be combined with intramuscular injections, if so desired. Although I have not seen any very great advantage from intravenous injections of oscol stibium over the intramuscular injections, the best results would appear to have been obtained where the drug has been pushed until toxic symptoms, such as diarrhoea, have shown themselves. This is likely to occur after a total of 20 c.cm. has been given intramuscularly over a period of ten days.

If, however, the drug is injected outside the lumen of the vein selected for an intravenous injection or if it is injected into the deep tissues outside the muscle chosen for an intramuscular injection, a painful swelling gradually forms and a large abscess supervenes. Though one does not see the same painful swelling that occurs when a solution of tartar emetic is unskillfully injected, the abscess will have to be opened, and such mistakes should be most carefully avoided, especially in emaciated leper patients.

REFERENCE.

¹ *Lancet*, April 17th, 1920.

DR. E. STEINACH, professor of physiology in the University of Vienna, has been invited to the University of Stockholm, where he will continue his researches on the interstitial glands.