of the scrotum, and a large variety of skin lesions and crusts all over the body. See photograph II, taken on the morning of the 21st. He received 0·6 gramme intravenously on 20th June 1911.

On the 23rd, every lesion shewed marked signs of cleaning up and healing, most of the crusts, except those around the mouth, having fallen off and left behind clean scars with pigmentation. He was discharged with only a very few lesions still shewing on 8th July 1911. See photograph III, taken on date 7th July 1911.

Remarks.—Time, alone, will test the value of the present high reputation of Salvarsan. It, however, affords perhaps the most striking instance in all therapy of the possibilities of treatment by drugs and of intravenous medicinal injections.

The sequelæ to the injection deserve mention. We have injected all classes of patients,—both plethoric and very emaciated, without any harmful results. In most cases immediately at the end of the injection or a little before the patient complains of nausea, and vomits freely immediately afterwards. Can this be possibly due to liberation of arsenic into the stomach, or is it merely a nervous reflex? Fever, about 100 to 102°, and sometimes chill and rigor occur from 2 to 10 hours after injection. In most cases from 12 to 18 hours after injection the temperature is normal and the patient quite comfortable. In case XI, however, the fever occurred on the day after and not on the day of injection. In case XV, the patient had troublesome vomiting for about 60 hours after injection, which could not be checked by any of the usual measures, but *which stopped of its own accord later.*

A SIMPLE AND EFFECTUAL MEANS OF ADMINISTERING SALVARSAN.

By G. FOWLER,

CAPTAIN, I.M.S.,

Civil Surgeon, Akola.

Finding the procedure that is recommended a very tedious and troublesome one, I tried the mixture of Salvarsan with Olive oil, and was surprised at the results. The local pain is practically nil, and the patients improved rapidly under the treatment, the same as is recorded by the injection of Salvarsan in Saline solution. The procedure I adopted is as follows:—A Roux's syringe with a short needle of fairly large bore is sterilised by boiling in water—an ounce of pure Olive oil is boiled in a small aluminium basin and the oil is allowed to cool, or if one is in a hurry, the basin is put into some cold water.

Two c.c. of oil is drawn up in the syringe with the needle on—the piston is drawn well up to the top and the oil is shaken up, so that the oil adheres to the sides of the glass barrel. The piston is then completely drawn out, a finger being placed on the point of the needle (which is lowermost), so that the oil may not run out—next the Salvarsan is thrown into the barrel and 4 c.c. of oil is poured on the Salvarsan direct from the aluminium basin. The piston is then replaced, and as soon as the washer engages the barrel, the syringe is turned up, so that the needle is uppermost. The screw cap which is on the piston rod is then pushed up and screwed home, and the syringe is violently agitated.

The Salvarsan mixes with the oil and forms a uniform emulsion. This is injected intramuscularly into the gluteal region.

The points that should be noted are:—

(1) The piston of the syringe should not be of metal. The syringes supplied for Salvarsan injections by Chemists are unsuitable for this purpose as the acid Salvarsan attacks the metal and the piston jams.

(2) The needle must be of wide bore.

(3) Care should be taken when the piston is being replaced, the glass barrel being held firmly in its metallic casing with the left hand. I would advise persons wishing to try this method to practise it with some simple oil.

(4) There should be no hurry in the mixing, as the whole of the Salvarsan will mix up with the oil. I have had no caking of the Salvarsan in the syringe.

The elaborate method recommended for the use of this wonderful remedy makes it impossible for the average medical man to administer the drug, but the method I suggest is one that can be tackled by any average medical man. I have injected 8 cases recently by this method and have had excellent results.

A CASE OF ACUTE DELIRIOUS MALARIA.

By A. COCHRANE, F.R.C.S.,

Superintendent, Central Asylum, Agra.

Asylum attendant Ramdin, æt. 22, went off duty with fever at midday, the 17th July 1911. I saw him at 9 A.M. on the 18th, when he was delirious with a rectal temperature of 107°F., Pulse 110, weak and of poor tension, respirations rapid and shallow. Physical examination of organs disclosed nothing abnormal. I gave 10 grains of Bihydrochloride of quinine, dissolved in 25 minims of water, into the median basilic vein; the effect was to depress the pulse markedly —a smear preparation of blood was taken and stained by Giemsa's stain; the sub-tertian parasite was found in fair numbers. Ice applications and rectal enemas failed to reduce the temperature, except momentarily, but were continued till 5 P.M. At this time the pulse was so feeble