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ADVISORY COMMITTEE ON TRAFFIC IN OPIUM AND  
OTHER DANGEROUS DRUGS.

Detoxication treatment of opium addicts by Vesicular Serum.

(Dr. Modinos' method)

by

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Note by the Secretary.

The Secretary has the honour to communicate to the members of the Advisory Committee on Traffic in Opium and Other Dangerous Drugs, for their further information and in continuance of Documents O.C.1188 and O.C.1188(a), the following extract from a pamphlet received on October 22nd, 1931, from the Government of the Netherlands, together with its Annual Report. This brochure is kept in the archives of the Secretariat.

..... We wish to state at the outset that for some time we had been using a method of detoxication described in the same journal by MM. de Mol van Otterloo and Linn, consisting in the administration of soporifics to the opium addict. Whilst we were satisfied with the results on the whole, we noticed that the method referred to involved risks in certain cases. We were therefore very glad to find in a publication by the League of Nations Dr. Modinos' report on the treatment of a drug addict by an auto-serum obtained from a phlyctena, which he produced in the patient by applying a vesicant. (The authors refer for details to the text of a lecture by Dr. Modinos, published in March by the League of Nations: (Document O.C.1188).

In the light of experience gained from more than 50 cases, we can assert that this treatment produces a kind of hyperaesthesia in the patient; the word "immunity" used by Dr. Modinos should be understood to mean that the subject has been rendered immune to his drug habit by fear of the disagreeable consequences produced by drugs in the subject treated by this method.

We tried several vesicants and came to the conclusion that the best for the purpose is "emplastrum cantharidinum", prepared according to the rules of the Dutch pharmacopoeia. It also gives least pain to the patient. The vesicant which we use is 8 cm. square and one millimetre thick, and generally does not give a very large quantity of serum, the yield varying between  $\frac{1}{2}$  and 5 ccm. Nevertheless after three or four injections we obtain the desired hyperaesthesia.

Results obtained from our first attempts led us to give up all other methods. There are numerous advantages in Dr. Modinos' method, of which simplicity is the greatest. Treatment by soporifics entails constant observation of the patient by the doctor and his assistant. Temperature and pulse must be taken every two hours, etc. On the other hand the new method is simple, easy and inexpensive. Above all it is harmless, and can be employed by any doctor or in any clinic.

We might perhaps mention, as contra-indications, diseases of the kidneys (owing to the use of cantharidin) and incurable diseases (when opium or morphine are the only means of giving relief).

In a clinic opium addicts obviously cannot be allowed to smoke a quarter of their usual quantity during treatment, as Dr. Modinos suggests. We therefore give morphine injections under the skin. However, it is difficult to determine how much morphine should be administered to patients in the habit of smoking a given quantity of opium daily. We therefore work experimentally, and fix the amount of the morphine injection in each case according to the individual reaction of the smoker. Generally we begin with 10 milligrammes and do not administer a second dose until the patient begins to grow restless. We have now ceased to stint the initial dose, as we know that after a few days the patient will evince a distaste for opium or morphine.

The quantity of morphine must be sufficient to prevent the patient from suffering too much during the first few days and remove any inclination he may have to escape. The less he suffers, the greater are the chances that he will ultimately carry on propaganda for the anti-opium movement.

After examining the patient, we give him Epsom salts as a laxative and, if necessary, a soap and water enema.

We administer 10 milligrammes of morphine at about 7 or 8 p.m., and a second injection of 5 milligrammes or more during the night, the amount depending on whether the patient is restless or has cramp or convulsions. As a general rule this quantity is sufficient. Next morning the patient is again injected with 10 milligrammes of morphine or less.

On the first evening a vesicant is also applied to the abdomen or chest, the skin being first treated with an alcoholic soap liniment and water. The next afternoon, after an interval of about 16 hours, when a phlyctena has formed, the liquid is taken from it and injected under the skin, generally in the upper arm or thigh.

If a considerable quantity of fluid is obtained the evening dose of morphine may be rapidly lessened. During the next few days the morphine dose is decreased still more, and is not even injected unless the patient asks for it. The second phlyctena is produced on the third or fourth day according to the quantity of serum obtained. After the second injection there is in most patients not the slightest desire for morphine or opium. As a general rule we continue to administer morphine for a period of three to six days, sometimes longer.

(In illustration of the foregoing explanations the authors here give a detailed account of the treatment employed in four cases. Details relating to case No.3 are given below).

III. Laij A. Fa, 46, came to Tjikini for detoxication treatment. For 12 years previously he had been smoking 10 mata daily.

June 4th, 2 p.m. - Patient admitted, had smoked 5 mata of opium the same morning.

8 p.m. - A morphine injection of 10 mm. was administered, also a vesicant. Patient slept well. Next morning he asked for a pipe, however.

June 5th, 8 a.m. - Another morphine injection, of 4 mg., was administered.

2 p.m. - An injection of 2 c.cm. of vesicular serum. The patient complained afterwards of intestinal pain, diarrhoea; a morphine injection of 2 mg. was administered immediately after the serum injection.

8 p.m. - A fresh morphine injection of 2 mg.

The morphine dose was decreased daily and by the fifth day had already been reduced to 1 mg. On the ninth day a second serum injection was given. From then until June 16th no more morphine was administered and the patient was kept in the clinic for purposes of observation only.

On the ninth day a third serum injection was given. During the period of observation the patient was given a tablet of aspirin or bromural from time to time when he complained of insomnia or pains in his legs.

We kept the patient under observation for a while after leaving the clinic; at our request he was given a mata of opium to smoke one day. As we expected, he had a violent headache, vertigo and vomiting. He was unwell all the evening.

It is too early as yet to say how long the hyperaesthesia produced by the treatment lasts, but certain

observations enable us to state that the effects of the treatment are perceptible for a considerable time. However, we shall have to conduct fresh experiments before we can give any definite conclusions on the matter.

Moreover, it would seem essential to arrange for the regular supervision of former drug addicts. This might be carried out by supervisors who could comfort and advise patients under their supervision. It is also essential that they should be able to send the latter back to a clinic.

There is finally one fact that we should like to point out. Whilst patients treated by soporifics generally complain of rheumatic pains and prostration, persons treated by Dr. Modinos' method complain of the same prostration but do not feel the rheumatic pains. This is fairly normal when we consider that Dr. Modinos discovered his method while treating a morphine addict suffering from rheumatism, and had been treating the latter disease by this method for many years with great success. Dr. Modinos merely records the facts of hyperaesthesia, but gives no explanation of the phenomenon. We do not share his opinion that there is anything to be gained by the injection of large quantities of serum. Quantities varying between  $\frac{1}{2}$  to 5 c.cm. have proved sufficient.

Up to the present we have always used phlyctena serum and not blood serum. It would be simpler to use the latter, but knowing that there is a difference between the two sera, we have not yet tried it.

We have not yet been able to analyse the chemical composition of the phlyctena sera.

There are about 8000 leucocytes per c.mm. in the ordinary blood serum, but the leucocyte content of the phlyctena serum is always greater. It varies with the colour of the serum, being about 20,000 leucocytes per c.mm. in clear sera and 100,000 leucocytes per c.mm. in cloudy sera.

We wish to emphasise, in closing, the fact that the success of detoxication treatment cannot be guaranteed unless there is complete confidence between the doctor and the patient and unless the attention of the doctor is available at any moment to the latter.

P.S. (written three months later).

We undertook to ascertain the duration of hyperaesthesia and the proportion of relapses.

In the last number of the Journal of the Anti-opium Association, Ong Soe An states that after an observation period over three years, 70% of the patients treated at Bandoeng by soporifics had returned to the drug habit.

Since we have only recently begun to practice Dr. Modinos' method we cannot compare our results with those above referred to.

Relapses generally occur shortly after the patient leaves the clinic and are caused by pain, prostration and insomnia. In order to obtain permanent results, it is expedient that the contact between doctor and patient should be maintained as long as possible. If we compare the results noted over approximately the same period in former opium addicts who are being supervised at the moment by the Anti-opium Association, we get the following figures:

37 patients treated by soporifics: 19 relapses  
= 51%.

20 patients treated by vesicular serum; 8 relapses  
= 40%.

Four of these relapsed cases came to see us and told us that after having left the clinic they tried to smoke but that they no longer derived any enjoyment from opium which merely caused discomfort. If we do not count these four cases as relapses, the results obtained by the vesicular serum treatment seem even more satisfactory and the percentage of relapses falls to  $4\frac{1}{2}\%$ .

We would also point out that we now use larger Vesicants and thus obtain more serum. With a vesicant of 5 x 3 cm. we obtain a quantity of serum varying between 2 and 3 c.cm. We have also increased the initial morphine dose, but the quantity is reduced very quickly. Treatment generally lasts from 3 to 7 days in the case of opium addicts and from 7 to 12 days in the case of morphine addicts.

October 22nd, 1930.