

ABSTRACTS OF OFFICIAL PUBLICATIONS, ETC.

Many investigations relating to Hygiene and Public Health, possessing permanent scientific value, appear in Annual Reports of Medical Officers of Health, Blue Books and other Publications of Official Bodies within the British Empire. These are not easily available and as a rule no record of them appears in scientific journals or in an accessible form; consequently much valuable work is lost sight of. To obviate this difficulty the Editors of the "Journal of Hygiene" propose to publish from time to time abstracts of such publications, or parts of them, as appear of sufficient permanent interest. They will be glad to receive copies of official Reports coming under the above description.

THE CAMPAIGN AGAINST ANKYLOSTOMIASIS IN PORTO RICO,

being an abstract of the "Report of the Permanent Commission for the Suppression of Uncinariasis in Porto Rico for the Fiscal Year 1906—1907" (San Juan, Sept. 30, 1907).

THE widespread prevalence of ankylostomiasis in Porto Rico and the enormous amount of illness thereby produced was fully realised by the authorities some five years since, and the possibility of treating the cases wholesale with success was demonstrated by the admirable work of Ashford, King and Igaravidez (see this *Journal*, vol. VI. 1906, p. 656). As the outcome of these enquiries, there was appointed in 1906 a Permanent Commission for the Suppression of Uncinariasis in Porto Rico, consisting of Drs P. G. Igaravidez (Chairman), I. G. Martinez and F. Sein y Sein, with a grant for the year of fifty thousand dollars. The present report gives an account of the work done in the year ending 30th June, 1907. The methods adopted were much the same as before. In addition to a central station in charge of the chairman, 34 dispensaries were opened in different parts of the island: some of these only came into use during the latter part of the period under review. Patients attend at these stations, have their stools examined

and receive appropriate anthelmintic drugs which are in nearly all cases taken away and consumed at home. A week later the stools are re-examined, and so on till *Ankylostoma* eggs are no longer found or the patient ceases to return. During the year 89,233 patients (*i.e.* 11 per cent. of the whole population) paid 425,131 visits to the dispensaries, as well as a few who were found at the first examination to be free from infection. In 26 per cent. the clinical type of the disease was severe. The results of treatment were as follows :

Cured	...	...	...	22,936 = 25·7 per cent.
Practically cured	...	...	...	15,507 = 17·4 "
Under treatment	...	...	...	36,132 = 40·5 "
Ceased to return	...	...	...	14,451 = 16·2 "
Died	...	...	...	193 = 0·2 "

Under the heading "cured" are included only those cases whose faeces ceased to show eggs and whose blood was restored to a normal condition as judged by the haemoglobinometer. The "practically cured" group comprises those who had had four doses of anthelmintics, a treatment which previous experiments had shown to expel on an average 96 per cent. of the worms. Those who "ceased to return" were also doubtless much benefited by the dose received.

The Commission pin their faith on thymol and beta-naphthol as anthelmintics, using sodium sulphate as a purgative. Thymol is on the whole regarded as the more efficacious, being given as a dose of 3 to 4 grammes (45 to 60 grains) once a week. The corresponding dose of beta-naphthol used is 1·5 to 3 grammes (23 to 45 grains). Each patient receives with the medicine a card as follows :

"Anemia Commission of Porto Rico.

Take one of the two purgatives given to you to night.

Take at six o'clock to-morrow morning half the capsules.

Take the other half at eight o'clock the same morning.

Take a purgative at ten o'clock.

You should neither drink wine nor any alcoholic liquor during the time you are taking these medicines.

Come for more medicines, until the physician says you are cured.

Have a privy in your house. Do not defecate on the surface of the ground, but in the privy.

Do not walk barefooted so that you may avoid contracting mazamorra in your feet. Wear shoes, and you will never suffer from anemia."

The farm-owners are also circularised and, after pointing out the loss in working capacity which anaemia entails, are urged to stop the pollution of the soil and to introduce the use of shoes. The Commission point out that once a man has been persuaded to wear boots his feet will become more tender, and he will not be so anxious to discard them in the future.

That an enormous amount of good has already been done in restoring the working class to an efficient state of health is obvious enough. How far the campaign has diminished the infectivity of the island cannot as yet be gauged. At present there are so many larvae (whose free existence may certainly extend to more than a year) about, that some reinfection must occur. At Utuado, 998 patients who had been cured in 1904—6 returned for examination; only 42 of them had become infected again. It is of course hopeless to expect that the infection will ever be completely eradicated, but, if the Commission proceeds for a few years along the present lines, it is clear that it will be very much reduced; this annual task of treating cases would then be brought within quite moderate limits.

This admirable work has been effected without any great cost. The total expenses for the year amounted to £9,600 of which salaries accounted for £7,200 and drugs for £1,100. The dispensary buildings and some other expenses are provided by the municipalities. There are therefore no overwhelming financial reasons why a similar campaign should not be started in other places, such as Trinidad, where it is no doubt as badly needed as in Porto Rico.

Incidentally the Commission have found *A. duodenale* in Porto Rico as well as *A. americanum*, and have made a number of interesting observations on the clinical aspects of the disease and its pathology. Having infected a young guinea-pig through the skin with larvae of *A. americanum* without producing the slightest signs of irritation of the skin, they transfer the result in detail to man and conclude that mazamorra ("ground itch" or "bunches") is not due to *Ankylostoma* but to a secondary infection of the points of entrance of the larvae. That the boils and pustules which occur are due to pyogenic organisms is doubtless true, but it seems much more likely that the urticarial wheals which precede such lesions are due directly to the larvae of the worm.

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