

## ON THE PROPHYLAXIS OF THE ACUTE EXANTHEMATA\*.

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IN this contribution the author first states that our prophylaxis of the acute exanthemata, viz., isolation, disinfection, etc., has hitherto been based on empiricism, and that the object of the publication of the following measures taken by him in dealing with several troublesome house epidemics of measles and scarlet fever in the Children's Hospital at Brünner, the children's department of the Infirmary, and the old provisional Children's Hospital of that place, is to give a more rational direction to preventive measures. He adverts to the difficulty in many cases, *e.g.*, where there is no infectious hospital and the patient is treated at home, of a complete and thorough isolation of the patient; the difficulty of quarantining contacts; and how hard it is to control epidemics of measles and scarlet fever in general hospitals, especially when over-filled, as the above frequently were, and with insufficient isolation wards.

He does not intend his method to displace, but to supplement, the older, well-tried preventive measures. In this method there are three factors to be considered:

1. Where and how is the contagion produced?
2. Its point of entry into the body?
3. How does vulnerability or immunity develop?

The first two are more important than a knowledge of the contagion itself.

Infectious diseases are divided into two groups; (1) Those in which the primary symptom and affection is known, *i.e.*, diphtheria, syphilis, etc.; and (2) Those in which they are not demonstrated or doubtful, *e.g.*, measles and scarlet fever.

As a rule the disease is at first local, to be followed by a general infection. He believes that in regard to measles and scarlet fever the universal belief that the infection is acquired through the respiratory passages is based on good grounds. Acting on these views his method of prophylaxis resolves itself into a systematic disinfection of the nose, mouth, throat, and respiratory passages of contacts of these diseases.

Disinfection (1) prevents the virus from finding a nidus, and (2), if it has found one, from developing into a general infection.

In confirmation of (1) he mentions the absence of secondary cases of measles and scarlet fever in his wards after the removal of the first case, and in confirmation of (2) he cites some examples of angina and sore throat in contact cases which underwent no further development.

His mode of procedure is as follows: When a case of scarlet fever or measles is discovered in the ward of a general hospital it is promptly removed and the bed-clothes, etc., disinfected, but not the ward generally. The remainder of the patients are then subjected to antiseptic inhalations for from five to fifteen minutes twice daily for long periods. The antiseptics are conveyed through the medium of steam, and consist of one or more of the following:—

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1. Aq. calcis (with distilled water equal parts).
2. Acid boric, 3 per cent solution.
3. Iodine trichlorate, .05 per cent solution.
4. Sod. chlorate, 3 per cent solution.

These act: (1) Mechanically through dissolving and washing away thick secretion; (2) Increasing lymphatic secretion through the mucous stomata; (3) Stimulation producing hyperæmia and increased phagocytosis; (4) Chemical and disinfecting action. These disinfectants will require varying from time to time, but must be non-toxic and little irritating. Gargling is impracticable for children.

Unfortunately he does not explain the nature of the inhalation apparatus, and how he gets such a substance as boric acid in sufficient quantity into steam, but no doubt this will be entered into fully in the monograph he hopes to publish soon.

To use his own words: "Having regard to these excellent results" (viz., the absence of any secondary cases in wards where infection of measles and scarlet fever were introduced) "of several series of experiments, I believe I can assume with still greater justification than occurred in my first publication that in 'disinfecting inhalations' we have a means which affords reliable protection against the settling (Einnistung) of the infectious matter of the exanthemata in the respiratory tract, and hinders the outbreak of the illness, or at least has the result that the invading poison produces only a local reaction and cannot generalize itself. I even believe that an advanced local affection of scarlatina or measles can be cut short by energetic disinfection. Along with the inhalations constant ventilation must take place, where possible permanently."

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## CAUSES OF EPIDEMIC PLAGUE.

IN an exhaustive report upon the second outbreak of plague in Sydney (1902), Dr. Ashburton Thompson, Chief Medical Officer of the Government of New South Wales, on the assumption that the opportunity of making accurate epidemiological observations has often been denied elsewhere by the character and density of the populations among which outbreaks have generally hitherto occurred, claims that certain conclusions (which are the outcome of the Sydney records) bearing upon the etiology of epidemic plague are entitled to have stress laid upon them; and, from the facts that in Sydney plague was in no degree assisted to assume the epidemic form by communication with the sick, or by place-infection, he considers that the leading part invariably assigned to these factors by recent writers requires revision.

It would appear that, although in Sydney the source of infection was found, and its presence even surmised, only in the bodies of diseased rats; that although the distribution of human cases bore a close relationship to that of rat cases; that although new centres of infection were repeatedly established at distant and widely separated points, to which fodder had been transported from a line of wharves known to be infested with plague rats; and that although, at those localised centres, the epidemics were preceded by epizootics among rats;—nevertheless, many individual cases seemed to throw great doubt on the efficiency of plague rats as the cause of epidemic plague. Their presence in a building was very often not accompanied by plague among any of the inmates; when such association