WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Meeting, Friday, November 2nd, 1894.

Dr. BANNING, President, in the Chair.

The exceptional number of 93 Members and Visitors were present.

DIPHTHERIA.

A discussion was opened by Dr. CAMPBELL POPE in an exhaustive paper on the etiology, pathology, and treatment of the disease. With regard to the etiology, he raised the following questions: (1) What is the character of localities where the disease is endemic? (2) Under what circumstances does it become epidemic in these places? (3) And how is it carried to other localities? In answer to the first, he states that insanitary conditions, malnutrition, and a moist atmosphere cause the disease to become endemic, and he quotes as an example, from his own practice, a school built on marshy ground surrounded by poor dwellings, where the disease is very prevalent. The importation of a case of diphtheria, together with an insanitary condition of the drainage, is the way in which the disease becomes epidemic in such localities.

Under the third head, he places milk as the most usual vehicle for the transmission of the disease, but also considers that infection may occur by other articles of food such as groceries, and also by means of the domestic animals.

Under the head of diagnosis he emphasizes the importance of careful clinical examination of the cases, and, although not considering cases where the membrane is limited to the tonsils as necessarily diphtheritic, the presence of membrane beyond the tonsils is, in his opinion, pathognomonic of diphtheria. Pyrexia is of doubtful value, but albuminuria, intense prostration, and subsequent paralysis are important diagnostic agents.

After alluding to the varying severity of different epidemics, he described eight different forms of diphtheria which present more or less distinct clinical characters. He concluded with a *résumé* of the statistics of the disease, and referred to the published reports of cases treated by antitoxic serum.

Dr. HOOD: The admirable paper just read by Dr. Pope deals so comprehensively with the matter under discussion that I have not much to add. My friend Dr. Elliot, with no little time and labour, has collated for me the results of our treatment of diphtheria at the West London Hospital. I will very briefly allude to these cases.

During the past ten years two hundred cases of diphtheria have been treated at the hospital, the mortality being 34·3 per cent. Of these cases, one hundred and twenty-six were children under seven years of age. There were sixty-five deaths. Over seven years of age, and under eleven,

there have been seventy-two patients under treatment, with only three deaths. These figures bring out in a very marked degree the danger of the disease in early infant life.

At the moment we are all intensely concerned and interested with regard to the new cure for diphtheria, and before passing our judgment upon the value of "antitoxin" it is absolutely necessary to consider carefully our present position in relation to the usual mortality, apart from the specific treatment.

Diphtheria is practically a modern disease, although authorities tell us it has been recognized for ages. Still, when we examine the records of one of the best clinical observers of the early part of the century, Sir Thomas Watson, we find no mention of the disease. In the first edition of Watson's lectures (1837) there is no reference to diphtheria. Six years later, in the fourth edition, in a paragraph, he alludes to *diphtheritis*, an affection "more common in some parts of France than in this country . . . a formidable complaint, generally proving fatal from extension of the disease to the air-passages." Hence I say, diphtheria may be looked upon as a disease which has only assumed prominence in this country during our own time.

I believe there is no disease which assumes such varieties of type. We meet with it under every grade of intensity. The most malignant form may have but a shred of membrane. A throat covered with membrane may be accompanied with scarcely a grave symptom.

I believe that it is not possible from mere naked eye appearance alone to make a certain diagnosis of the disease. Statistics will enforce the fact of the extreme variation in the type of diphtheria. Thus I find at the West London Hospital, taking the mortality year by year, there is a difference of from thirty to forty per cent. between individual years.

This difference of type has an important bearing upon the value of "antitoxin," and, assuming that we had made use of "antitoxin" in our two hundred cases treated in the West London Hospital, type and age would require most careful adjustment before permitting any logical deduction as to the value of that remedy.

I do not wish that this remark should be taken in any sense as opposing the use of "antitoxin." I am a firm believer in the power of this potent agent, but we are more likely to obtain real and lasting good by approaching the subject in a calm judicial spirit than by blindly accepting evidence only too hastily gathered together.

A study of both the clinical features and the essential pathology of the disease will, I think, teach us that with diphtheria we are dealing with an organism like those far higher in the animal scale, endowed with that wonderful power of variation—variation due not only to changes of the organism itself, but vastly influenced by the receptivity of the soil upon which it may chance to fall.

Dr. D. DREWITT believed that we cannot exaggerate the importance of *pure fresh air, free ventilation, and light, in the prevention and treatment of all infectious fevers, especially of diphtheria.*

Some years ago there was an epidemic of diphtheria in Bloomsbury, and within two years some eighty cases were brought to the hospital.

They were removed, as a rule, from the diphtheria ward to the general wards within two days of the disappearance of the membrane, but no doubt with the diphtheria bacillus still on their fauces. The wards were large and well ventilated, and in no instance did the disease spread. In a few weeks, however, owing to the hospital being enveloped in clouds of dust from some houses which were being pulled down, *all windows and ventilators were shut*, and then diphtheria appeared in every ward of the hospital—in all, twelve cases of diphtheria, besides five of tonsillitis and three of scarlatina.

At the London Fever Hospital I am informed that, some time ago, almost the same thing occurred. When the windows of the scarlatina ward were closed late scarlatinal throats, nephritis, and some cases of diphtheria appeared. When the windows were opened they disappeared, and this in spite of defective drains.

In all our hospitals (possibly in most of our public buildings) diphtheria bacilli exist, scattered, harmless, and disappearing as long as there is free ventilation and no overcrowding, but liable to become dangerous when these precautions are neglected. Badly-ventilated schools and churches are both of them liable to spread the disease.

Our workhouse authorities happily recognize the importance of the fresh air treatment, for while allowing only 600 cubic feet of air to each patient in the ordinary sick ward, they allow each diphtheria patient 2000 cubic feet, and, I believe, in the plans for future hospitals each patient is to have 195 square feet of floor, and the enormous volume of 2250 cubic feet of air to himself, for with this abundant air space not only is the patient more likely to recover, but he is less a source of danger to others.

Dr. NORRIS WOLFENDEN thought that the efforts of the Society could not be directed to a better end than in emphasizing measures for the prevention of diphtheria. It is not the typical cases of diphtheria that present great difficulties of diagnosis, but that larger number of cases of obscure throat affections and catarrhs, such as the numerous varieties of tonsillitis, which we so commonly meet with and which are, many of them, liable to be carriers of diphtheritic infection, and the true nature of which is apt to be overlooked by even the most careful practitioner. A diagnosis by bacteriology is the only absolutely correct one, and it is essential that this should be performed for the sake of the patient, the practitioner, and for the better means of isolation, disinfection, and prevention of the spread of the disease. For whatever we may in future learn as to the treatment of this disorder, there can be no question that prevention is of the first importance. Accurate diagnosis is the first step towards this end, and this must be bacteriological. The general practitioner cannot be expected to do this, and the efforts of this Society cannot be directed to a better end than by presenting to the Local Government Board a memorial and pressing it home by every means in its power, to get the adoption of a system such as is now in successful practice in New York, and which consists of a central bacteriological station with properly qualified bacteriologists, and depôts throughout the city where culture tubes can be obtained free of cost by the practitioner,

with full directions how to use them. These are returned to the bacteriological station, and a report as to the nature of the case is delivered to the practitioner within twelve hours. No case, found to be diphtheritic, and in which the Klebs-Loeffler bacillus is found in the cultures, is allowed to go free until successive cultures during convalescence have determined that these bacilli have entirely disappeared from the throats of the patients. It is these obscure cases of throat affection, in which the clinical symptoms are slight, but in which there is often the typical bacillus, which, allowed to circulate among the population (School Board schools, etc.), carry the infection right and left, and many of which are extremely virulent.

There is only one true test of diphtheria, viz., the characteristic bacillus, for membrane signifies nothing more than intensity of the local process of inflammation, and typically diphtheritic membranes may be produced by a variety of causes—caustics, the streptococcus, staphylococcus, pneumococcus, etc. Temperature, albuminuria, glandular enlargement, even “post-diphtheritic paralysis,” are not characteristic of diphtheria. We are well on the way to distinguish clinically such forms of “pseudo-diphtheritic” throat as the streptococcal, the staphylococcal, the pneumococcal, etc., all non-diphtheritic, but many of which would unhesitatingly be described as such clinically. Indeed the returns of the Health Department of New York have shown that of 5611 cases of suspected diphtheria examined in the twelve months ending May, 1894, 1540 were definitely proved not to be diphtheria, and 816 were doubtful—*i.e.*, about sixty per cent. of reported cases only were diphtheria, and forty per cent. were not; and these returns agree with those from Paris and Berlin in establishing the fact that a large proportion of suspected cases returned as diphtheria are not so. In the interests of accurate statistical returns bacteriological diagnosis is important, and how much more as a means of preventing the spread of the disease.

The establishment of such stations in London would also be productive of scientific results of the greatest importance, besides assisting the general practitioner, whose loyal co-operation may be counted on in London as in New York, and who need feel no shame at having to rely upon the bacteriologist for a diagnosis in one of those obscure forms of disease which constantly puzzle even the most intelligent clinicians. A full description of the methods adopted in New York will be found in a paper by the director of the laboratory published in the *JOURNAL OF LARYNGOLOGY*, September, 1894, and a lengthy report of the experience of the first year's working by Drs. Park and Beebe, the bacteriologists, is published in the same *Journal* for November, 1894. In July, following upon a paper read by the speaker upon *The Nature of so-called Follicular Tonsillitis, and its Relation to Infectious Diseases*, at the British Laryngological Association (published in the *JOURNAL OF LARYNGOLOGY*, August, 1894), a resolution was agreed upon by that Association, and subsequently presented to the Local Government Board, emphasizing the necessity of adopting in this country some such system as is in practice in New York, and the speaker hopes that, before this important discussion terminates, the West London Medico-Chirurgical Society will see its way to support

this memorial by a similar one, and, by its powerful influence, help to bring home to the Government Department the advantages and the urgent necessity for establishing bacteriological stations for the better diagnosis of diphtheritic disorders as the first step towards better preventive measures and methods of isolation and treatment. The speaker concluded with a hope that the West London Medico-Chirurgical Society might be induced to establish such a station of their own in the west end of London, and thus become active pioneers in the good work.

Dr. A. SYMONS ECCLES: I will not intrude on the interesting clinical and pathological domain which this discussion has traversed for any great space of time, but I think and hope that I may be the mouthpiece of this meeting, rather than the voice of one crying in the wilderness of apathy, if I venture to suggest that there should be a practical and tangible outcome from this debate. There are certain conditions arising out of the notification of disease, by the medical adviser of the patient, to the sanitary authority, which make it difficult both in the interest of the patient and the community to insure rapid isolation and treatment of infectious disease.

1st. There may be, and frequently is, too great eagerness to notify.

2nd. There may be too great reticence.

3rd. The medical officer of health may object to what he may regard as too great readiness to notify.

4th. The medical officer of health may be too keen to ferret out foci of infection in order to avoid epidemics, and thus reproach the medical practitioner for non-compliance with the Act.

To obviate these well-known difficulties I look forward to the establishment of State clinical laboratories, and as a step in this direction I beg to propose a resolution to this effect:—

Coming from this Society of general practitioners it may prove even more effectual than one already passed by the British Laryngological Association, as, in this case, we are not merely specialists, experts always alarmists, and anxious for scientific progress only, but men whose relations with the public make them desirous only for the common weal.

Dr. JACKSON, in seconding the motion, referred to the influence of sewer gas in preparing a suitable nidus in the throat for the development of diphtheria. He condemned the action of the vestries in allowing the ventilation of the sewers into the roadways, and pointed out that this was directly contravening the Act.

Dr. ATKINSON raised an objection to the resolution on the ground that it would increase the work of the parish doctors.

Dr. ALDERSON gave some of the results of his personal experience in the treatment of the disease.

Mr. LENNIX BROWNE agreed heartily with the resolution. He considered that the amount of membrane in any case was the essential factor in producing a fatal result. In the event of the antitoxic treatment proving of value he urged the importance of not neglecting local and dietetic treatment.

Dr. SEYMOUR TAYLOR: Diphtheria must not only be considered a local disease—it is essentially a grave constitutional disorder. It is entirely

begging the question to look upon it as a malady which kills by its local processes only. It will be found in the majority of cases that death in diphtheria has been brought about by pure asthenia, and not by suffocation.

As regards causation, I hold that no bacillary infection will ensue unless the nidus be prepared: in other words, it is necessary that the victim of the disease must be in ailing health, and hence that the fauces must be previously prepared, as it were, either by some form of tonsillitis or other catarrhal affection, before there will be a cultivation of Loeffler's bacillus.

This leads up to an important point in treatment. The constitutional symptoms require a generous and stimulating dietary. Further, as showing the grave state of the patient, tracheotomy is to be discountenanced in all children under one year of age, as it is seldom successful.

As regards local treatment, Dr. Taylor advocated the free swabbing of the throat with a saturated solution of salicylate of soda.

The further discussion was adjourned to a special meeting of the Society to be held on November 16th. *R. Lake.*

ABSTRACTS.

DIPHTHERIA, &C.

Oertel (München).—*Scheme of a General Official Research as to the Causes of Epidemic Diphtheria.* "Internat. Klin. Rundschau," 1894, No. 34.

CONCERNING the proposition of an inquiry upon the causes of diphtheria at the eighth international congress of hygiene and demography in Budapesth, the author proposes researches (1) on the bacteriology of the disease, (2) on its epidemiology and hygiene, consisting in official researches upon the influence of climate, on individual, local and social causes producing increase of virulence and leading to the propagation of diphtheria; a scheme of a paper of questions on each case to be filled by physicians, and a report on the hygienic methods necessary to diminish the spread of the disease. *Michael.*

Kohn.—*On School Hygiene and Diphtheria.* Gesellschaft der Aerzte in Wien, Meeting Mar. 25, 1894.

IF only one child is affected in the school it is recommended that the others shall not visit the school during fourteen days; if more than one case arise, the school should be closed and disinfected. All the children should use, as a prophylactic, inhalations of potash permanganate. *Michael.*