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DIPHTHERIA.

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SPORADIC cases of this disease have appeared in this vicinity, for a year past. It began to assume more the character of an epidemic, as the cool weather of the autumn approached. A majority of the cases occurred in children and young persons. No cases have been met with in infants under one year, it being most frequent between the ages of five and fifteen. However, several cases occurred among adults. No local causes seemed to influence its prevalence. Cases were quite as numerous and as severe in the farm-houses, upon the prairie, as within the town, and perhaps more so in proportion to the population. In no instance has it appeared to be contagious. In some families, but one case occurred; while in others, all were evidently attacked with it. Cases of "sore throat," not characterized by "diphtherite" or constitutional symptoms, were common, and yielded to little or no medication. There prevailed, at the same time, scarlatina, of more than ordinary severity, and a number of cases were fatal, principally through cerebral complications.

The following notes of a few cases may serve to convey an idea of its principal features, as it has come under my observation, and the treatment which I have been led to make use of.

CASE I.—Nov. 4. E., aged six. Twenty-four hours ill. Some pain in head and right ear. Fauces and palate red and slightly tumefied, particularly the tonsils and uvula; the right tonsil has a patch of membrane as large as a thumb nail upon its internal, inferior surface. Right lymphatic submaxillary gland swollen and tender to the touch. Breath slightly fetid; tongue covered with a cream-like fur; pulse accelerated; countenance slightly flushed; skin hot and dry. No pneumonic symptoms.

Applied a saturated solution of nitrate of silver to the mem-
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brane of the tonsil, with a camel's-hair brush, and prescribed ten grains sulphate of quinine and the same quantity of Dover's powder, to be divided into ten powders, one of which was to be given every three hours. A solution of chlorate of potassa was also ordered, to be used as a drink and gargle, and volatile liniment to be rubbed upon the neck over the tumefied glands.

Nov. 5.—This morning she was engaged in her sports, free from fever. Throat less red; swelling subsided. The treatment was continued. The next day her father informed me that she was "about well," and took food with relish. I cautioned him to watch her closely, and to continue the tonics.

On the afternoon of the 7th I was summoned, and found an aggravation of the symptoms. Pulse rapid; expression of countenance anxious; swallows with difficulty. Both tonsils, the greater portion of the velum palati, including the uvula, covered with a firm, yellowish-white membrane; the parts adjoining swollen and intensely congested. Breath foetid. No medicine has been taken for two days, except chlorate of potash. The membranous portions were immediately cauterized. Quinine and Dover's powder prescribed as above, and instead of the chlorate of potash, the chlorine mixture was directed to be taken in half tablespoonful doses, every hour or two. I was led to prescribe this preparation on account of recently witnessing very marked and happy effects from its use, in a severe case of scarlatina, after the usual preparations of the chlorides and chlorates had failed to afford any relief.—(*Vide Watson's Practice, Scarlatina*, p. 1002.)

The next day there was an amelioration of all the symptoms; deglutition became easy, and she recovered rapidly with no change of treatment, except one or two cathartics. After the use of the chlorine mixture, it was not necessary to apply caustic. No others of the family, containing six children, were attacked.

CASE II.—Farmer, aged 38. Saw him on the evening of Nov. 8th. Has not been well since morning, but labored during the day. Has now fever, hot skin, white tongue; pulse 110; breath foetid. Right tonsil covered with membrane; palate tumefied and congested; right submaxillary gland swollen; pain in back part of head and right ear; great thirst and restlessness. Prescribed sulphate of quinine, twenty grains; Dover's powder, fifteen grains; sulphate of morphia, one grain; to be divided into ten powders, one of which was to be given every three hours. A tablespoonful of the chlorine mixture was ordered to be taken every two hours, and to be used also as a gargle. Fomentations to neck externally.

The next day found him profusely perspiring, and the symptoms all ameliorated. Some membrane upon both tonsils, but redness and tumefaction subsiding. The same treatment was essentially continued, with an occasional cathartic, and at the end of one week he had nearly regained his health.

Three other cases occurred in this house, not differing from this in their features, and yielding to similar treatment.

CASE III.—A German child, one year old, had been ill one week. The parents thought "it had a cold and sore mouth." Since yesterday, it has swallowed with difficulty. Respiration croupy; voice very hoarse. It is evidently difficult for the patient to make a loud noise. Tongue, fauces and palate, as far as can be seen, covered by membrane. Glands of neck swollen, and pulse very rapid. After answering the inquiries of the parents with an unfavorable prognosis, an emetic of ipecac was given, to be followed by quinine and Dover's powder, half a grain each, every two or three hours, and chlorine mixture in one or more teaspoonful doses, every alternate hour. Rubefacients and fomentations to the neck were directed. Twelve hours after, he appeared much relieved, as far as the respiration was concerned, and there was some moisture of the surface. During the following night he was permitted to rest, and in the morning there appeared to be a remission of the more urgent symptoms. Had it not been for the hoarseness remaining, I should have discharged him at once; but knowing the danger from "false membrane," the parents were cautioned not to consider the danger altogether past. He coughs frequently, and appears to expectorate a great deal, which is, of course, swallowed immediately. Directed castor oil to be given, and the above treatment to be continued.

In the evening I found him quite as well. One dejection was shown me, containing what appeared to be a quantity of membrane, perfectly white and opaque. Suffice it to say, that under such treatment, with some mild expectorants, he recovered in about ten days—the tonics, anodynes and chlorine mixture being the principal agents. It was with much hesitation that the administration of the tonics was commenced in this case, as such treatment is diametrically opposed to that I have usually pursued in membranous croup. But being satisfied that this was diphtheria, and that this disease yielded to tonics and chlorine in some form, and the already debilitated condition of the patient not seeming to admit of a depletive or mercurial course, there remained none other but the somewhat empirical one made use of, which happily resulted favorably.

Diphtheria, then, in this locality, has shown itself to be a febrile disease, ushered in by symptoms common to intermittents and continued fevers, accompanied by a peculiar inflammation of the mucous membrane of the fauces and neighboring parts, which very soon results in the formation of a false membrane. If the disease is not arrested, ulceration takes place, the neighboring absorbent glands swell, an irritative fever is set up, deglutition becomes impossible, respiration difficult, and the patient rapidly sinks.

Tonics and the preparations of chlorine are indicated to arrest the febrile paroxysm, and consequently the formation of false membrane. I have principally relied upon quinine and the chlorine mixture, and have not been disappointed in a single instance.

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Anodynes, and also stimulants, have been necessary in some cases, and, in all, a general supporting treatment, continued for several days after the disease is apparently arrested.

THE VALUE AND THE FALLACY OF STATISTICS IN THE OBSERVATION OF DISEASE.

A BOYLSTON PRIZE ESSAY, BY DAVID W. CHEEVER, M.D.

[Continued from page 503.]

SPECIALISTS are particularly prone to error. The advantages to medical knowledge of so many minute observers, each investigating a single subject, is more than counterbalanced by their unconscious tendency to distort facts to suit their theories. And if it be said that there can be no difference of opinion about figures, we can easily point to a hundred instances in medical history, where the unitary symptoms which are the basis of statistics have been misconceived, preconceived, or mis-stated, by honest, but prejudiced observers. Even if we are not specialists, we, very few of us, escape many years in practice without contracting some bias, which would cloud the clearness and accuracy of our perceptions. No man is wholly free from it. And provided that we hold our wayward tendencies sufficiently under control to prevent our being led into any positive fallacies in observation, we are still in danger of not finding, or of overlooking, the most essential points in a case, and of dwelling upon those which are less characteristic and important. Thus two observers, taken from the number of general practitioners, may render a very different account of the same case. It may be objected that such errors as these are inseparable from any human investigation. But it must be recollected that we are trying by statistics to free our art from fallacy; and that the science of numbers stands or falls with the identity or comparability of the facts observed, or with the reverse.

Provided, however, that we escape all these sources of error, another awaits us in the use of language and definition. It is not true that the numerical method is a substitution of figures for words. Numbers alone can never supply the requisites of articulate speech. And, unfortunately, the language we employ is a very defective one. The terminology of medicine is very far from definite, because originally formed by ignorant men: yet we cannot avoid using it. The literal meaning of technical terms is no longer their correct one. False expressions, too, influence our ideas, in the end. Our idea of a disease is got from a set of symptoms described and grouped by words. Yet the latter, as well as our definitions, change with time.

It is as important, too, in establishing theories from facts, that our classifications should be identical or similar, as that our definitions should be accurate. Diseases must be classified on neces-