

Abstracts.

DIPHTHERIA.

E. E. Laslett.—*The Treatment of Severe Cases of Diphtheria with Saline Infusions.* "Lancet," October 20, 1900.

Saline infusion has now become a well-recognised therapeutic measure in many forms of acute septic disease. This paper is a preliminary account of the results of its use in cases of severe diphtheria. It is generally considered now that under the influence of antitoxin treatment numerous cases of diphtheria recover from the acute stage that would have been fatal, in all probability, in the first few days of illness in the period before the introduction of antitoxin. Unfortunately, however, these cases are frequently disappointing in later stages. At a variable time, after all membrane has disappeared, sometimes as early as the seventh day of illness, signs of serious heart failure appear, accompanied, as a rule, by persistent vomiting. So frequently does this happen, that after some experience of diphtheria work, one can foretell with considerable accuracy which cases will develop this heart failure, a most serious sequela which in the majority of instances proves fatal.

The pathology of this condition has been well studied, and extensive fatty degeneration of the heart muscle has been found in nearly all cases. Villy* found it markedly present in fourteen out of fifteen cases in which death resulted from cardiac failure, and an important feature is the early period of the disease at which the fatty change develops. In one case Villy found it as early as the fourth day of illness. The fatty degeneration of the heart muscle is probably independent of nerve injury, but whether this is so or not, it is certainly ultimately the result of the action of diphtheria toxin.

1. *In the Late Stage.*—Its use is particularly indicated when, during the persistent vomiting, nutrient enemata are also rejected. Inasmuch as the fluids of the body are thus constantly diminished, the blood must become more viscid, and the work of the heart thereby much impeded. The absorption of a considerable quantity of saline fluid will therefore tend to diminish this viscosity, and will consequently relieve the heart. Some six cases were treated in this way, but they were all ultimately fatal, probably because the damage already done to the heart was too severe to be recovered from. However, the treatment seemed to prolong life, and certainly made it more tolerable by the relief of the thirst and restlessness which are essential accompaniments of this condition.

2. *In the Acute Stage.*—At an early stage of the disease, the introduction of additional fluid into the blood system will, it may be supposed, dilute the toxin, or help its excretion by producing diuresis. We are not aware of any experiments to prove the excretion of diphtheria toxin by the kidneys in man, but in the case of the lower animals its excretion in the urine has recently been demonstrated by Cobbett.†

Fifteen cases in all were treated in this way. They were chosen on account of their severity, the main indications being the presence of much spreading membrane, nasal discharge, and great factor of the

* *Medical Chronicle*, September, 1899.

† *Lancet*, July 7, 1900, p. 22.

breath. The infusion was carried out in the first instance as soon as possible after the admission of the patient, and was continued during the first, second, and occasionally the third day. A solution of common salt of the strength of two teaspoonfuls to the pint was always used. The injections were made under the loose skin below and outside the right breast. The pressure used was that of about from $1\frac{1}{2}$ to 3 feet of water, which is quite sufficient and insures the gentle and uniform distension of the subcutaneous tissue, and thus produces very little pain. The salt solution was boiled, then covered over in a pint measure, and allowed to cool till it was just as hot as the hand could bear. It is impossible, however, to judge of the temperature of the saline solution as it passes into the skin, on account of the rapid cooling that takes place in the indiarubber syphon tube. By this means from 10 to 15 ounces may easily be injected in half an hour, and it is surprising how little discomfort it produces. During the process children are readily soothed, and quite commonly fall asleep towards the end of the injection.

The condition of repose brought about by the infusion is an undoubted fact, and is probably due partly to the sense of warmth produced, and partly to the filling of the blood-vessels as absorption of the solution occurs. Certainly the pulse tension as determined by the finger rises rapidly. Craig* in a large number of observations on insane patients found that in melancholia the pulse tension is raised, while in mania it is below normal. In a subsequent paper† he refers to the beneficial effect of rectal injections of salt solution in conditions of maniacal excitement. One of the worst features in a severe case of diphtheria is the condition of extreme restlessness during the first few days of illness, which prevents anything but mere snatches of sleep being obtained. The relief of this condition by the infusion is very real, and contributes considerably to the beneficial effect of the treatment. Owing to the youth of the patients and the severity of the illness, the urine is commonly passed in the bed, and consequently it has only rarely been possible to determine the influence of the treatment in the direction of diuresis. In one or two cases diuresis was certainly well marked, and it continued for a day or two after the treatment had ceased.

St. Clair Thomson.

MOUTH, Etc.

Aron.—*A Path of Infection in Man.* "Wien. klin. Rundsch.," No. 27, 1900.

The crypts (lacunæ) of the tonsil contain the most varied pathogenic bacteria or parasites, which under certain conditions are able to produce infection of the organism. The author mentions cases of pneumonia with streptococci, and one case of typhoid fever after angina lacunaris.

R. Sachs.

Anglise, W. G. (Kingston).—*Double Hare-lip with Complete Cleft Palate.* "Kingston Medical Quarterly," July, 1900.

The patient, male, æt. fifteen years, was found to have complete double hare-lip, with flattening of alæ nasi, protrusion of os incisivum,

* *Lancet*, June 25, 1898, p. 1742.

† British Medical Association, 1900.