

which opportunity was given to examine the urine before the injection, did I notice any increase in the amount of albumen following the injection. The amount of albumen in most cases is small and is present only from one to five or six days, in other cases there is organic nephritis.

Of the 10 cases which terminated fatally, all but two had severe nephritis on admission. In one of these the urine was abundant, but all lost, and the other was in the hospital only two hours before death and no urine was passed. Of the other eight cases, five died directly of uræmia, and one of uræmia and hæmorrhage. In three of the five there was a history of total suppression during the twelve to eighteen hours preceding admission.

Nephritis then being the complication to be dreaded it is well to take for granted, till negatively proved, that in every severe case the kidneys are affected and to treat the patient accordingly.

The occurrence of rashes causes some worry on the part of the parents, but does no harm.

These rashes are of two kinds: 1st. An erythematous blush occurring most commonly on the upper trunk and coming out a few hours after the injection. How much of this is due to the reactionary fever it is hard to say. I have never seen it simulate a scarlatina rash as it is a simple erythema, and lacks the maculæ of that eruption. This rash lasts only a short time.

2nd. Urticaria. This is the more common eruption in my experience. It may be either general or local, sometimes developing into typical erythema multiforme with rise of temperature and joint pains. In almost every case I have ascertained that the patients were more or less prone to attacks of "hives" and usually the parents thought nothing of its occurrence.

The eruption is more or less symmetrical, in my own case perfectly so, the wheals occurring on the thighs, the extensor surfaces of the arms and forearms, on the metacarpo-phalangeal joints of the thumbs and on the back of the heels.

The rash shows itself in from ten to twenty days after the injection, and lasts two to five days. In three cases the eruption assumed a circinate form and was accompanied by elevation of temperature and in two cases by pains in the joints.

Independent of this more or less general urticaria there is often a somewhat similar eruption localized to the point of injection, characterized by the appearance of a few papules and very itchy, especially at night, this condition lasting for a month or more.

The last point I shall discuss is that of the sequela of diphtheria—paralysis: