

of the surface I found to give the greatest relief up to, and during, maturation, and slightly carbolised oil (1 in 160) towards decrustation when the itching was severe. Sanitas ointment seemed also useful for this purpose. There were seven delirious cases; I used laudanum. In two very nervous subjects there was quite exceptional acute hyperæsthesia of the sole of the foot, causing complete agony on pressure; relieved by cold applications.

All the cases had been vaccinated—three revaccinated. Of one of the latter I sent an account to THE LANCET under the heading "Concurrent Variola and Vaccinia," and with the pseudonym "In Perplexity." One of your correspondents tried to explain the coincidence, but unsuccessfully, as he was forced into certain refinements as to the "rising" powers and "declining" powers of vaccination, which gave one the notion that *plus* one and *minus* one were very much the same sort of thing. Two-thirds of my cases were between the ages of ten and twenty. The period of greatest intensity was reached from the fourth to the seventh day of the eruption, but there was one at the third, two others at the tenth and eleventh day. I found that the earliest time at which patients could be safely discharged without fear of conveying infection—that is to say, when all trace of crusts, scabs, or scurf had disappeared—was for confluent cases six to seven weeks, discrete four to five, modified three to four.

NOTES OF A CASE OF TETANUS.

BY THOMAS SIMPSON, M.R.C.S.

THE following notes of a severe case of tetanus, taken by myself and by my assistant, Mr. W. E. Woodman, are interesting, as showing the great tolerance for chloral existing in that disease, and the marked effect that drug possesses in mitigating the painful muscular contractions which are its chief characteristic. The fatal termination was probably hastened by the epistaxis and by the vain efforts made to expel the coagulated blood which had passed the posterior nares. The severity of the case may be inferred from the rapidity of onset. The first symptoms appeared on the seventh day after the accident, and from its nature were not unexpected. The paroxysms were frequent and severe. On the third day of the seizure they occurred every two or three minutes, although the patient had taken 480 grains of chloral in the preceding twenty-four hours. After the third day the chloral seemed to diminish both the number and severity of the attacks, and this effect was well marked, the paroxysms becoming more frequent and severe as the action of the medicine began to wear off. It is most certain that the chloral relieved the patient of much acute suffering, gave him quiet sleep between the attacks, and probably lengthened his life. The muscular contractions were more marked on the right than on the left side of the body, and consequently the body was arched with the concavity backwards and convexity towards the left. The muscles of the jaws were not much affected, except at first. The muscles chiefly involved were those of the neck and trunk, those of the leg being but slightly affected, and those of the arm not at all. During the intervals between the paroxysms the muscles of the trunk and neck were rigid.

George N—, age nineteen years, a farm labourer, living with his parents in a village near Coggeshall, whose previous history was good, undersized, but healthy looking and of florid complexion. On the 5th of April a horse, suddenly frightened while he was attending to it in a stable, jammed his left hand against the iron catch of the door. He walked about a mile and a half to the surgery to have it dressed. On examining it, we found a severe lacerated wound beginning at the cleft between the third and fourth fingers, thence extending downwards to the centre of the palm and turning at a right angle outwards, involving the skin and fascia as deep as the superficial tendons, and on the inner side of the palm below the joint of the little finger was another wound, about half an inch deep and two inches long; on the back of the hand were some superficial wounds. All these wounds were contused and ragged. The treatment was simple, and consisted at first of hot-water dressings with chlorinated soda lotion. A pill containing one grain of opium was given every night. The wound granulated kindly. There was a small slough in the inner flap, and on April 9th car-

bolic-acid dressings were applied, the wounds looking healthier day by day. On April 12th he had during the afternoon some pain about the neck and some convulsive twitchings during the night, and on the morning of the 13th sent word down to the surgery that he felt some stiffness in his neck and jaws.

April 13th.—11 A.M.: When visited he was found sitting on a chair at the table, his head drawn back on his shoulder and legs doubled up under his chair. He could straighten them with difficulty. The angles of the mouth were slightly drawn down. The mouth could be opened about one-eighth of an inch. The seat of pain was in the jaw and neck. Twenty grains of chloral were administered, and he was sent to bed, orders being given to darken the room and prevent all noise. At 1 o'clock the dose of chloral was repeated, and ordered to be given every two hours. The patient said that the pain was easier, but that it had "run down the spine." He could open his mouth about a quarter of an inch, and had slept a little. At 7 P.M., temperature 98°, pulse 84. Ordered to take eggs beaten up in milk and strong beef-tea; to continue the chloral in twenty-grain doses every two hours. Feels easier.

14th.—7 A.M.: Had taken the chloral regularly during the night; the symptoms no worse; pulse 90. At 11 A.M. pain in back severe; opisthotonos about every five minutes. At noon he was sweating profusely, and had passed water. The spasms were more frequent, and chloral was given in twenty-grain doses every hour. At 7 P.M. he was still sweating; the spasms of opisthotonos were slighter. The granulations in the hand were unhealthy, the pus sanious, and the wound was poulticed.

15th.—7 A.M.: He had passed a restless night without sleep. Mouth opened so as to admit a spoon. He had taken a large quantity of liquid food and 480 grains of chloral during the twenty-four preceding hours.—12.30 P.M.: His head drawn back so as to make throat tense. Paroxysms occur every two or three minutes, the intervals being nearly painless. Respiration abdominal. Quite sensible. Ordered to take five grains of chloral in the middle of the hour's interval between the twenty-grain doses.—7 P.M.: Asleep; paroxysms less frequent, but excited by noise or by touching him; less severe. Sweating less. Mouth more open. Pulse 108; respiration 36. Temperature not taken, as adjusting the thermometer brought on a spasm.

16th.—7 A.M.: Asleep; has rested well during the night. Paroxysms about every twenty-five minutes; less severe. Mouth open; head drawn back. Pulse 108; respiration 36. Micturates freely; bowels not open since the evening of the 12th. Takes fluid nourishment well.—11 A.M.: No alteration in symptoms. Still asleep. Half an ounce of castor oil administered; to reduce the dose of chloral to ten grains an hour.—1 P.M.: Can open his mouth quite half an inch. Says that he feels no better. Paroxysms induced easily, and when awake occurring about every ten minutes. 7 P.M.: Asleep; slightly delirious at times when awake. Paroxysms about every quarter of an hour, and rather more severe. Bowels acted. Takes nourishment well.—10.45 P.M.: No alteration. Dose of chloral increased to twenty grains.

17th.—7 A.M.: Between 11.30 P.M. and 4.30 A.M. had sixty paroxysms; between 4.30 and 8 o'clock only ten. Paroxysms not so severe. Head drawn back, and towards right shoulder, from which the occiput is about one inch distant. Muscles of neck so contracted that the shirt-collar will not enclose it by three inches. Has taken nourishment well during the night, and some wine.—2.15 P.M.: Paroxysms about every twenty minutes after taking chloral, then, as the effect of the chloral wears off, about every ten minutes, and then every five minutes. Says that he feels better, but does not take his nourishment so well.—3.30 P.M.: Slight epistaxis, to which he was subject when in health.—4 P.M.: Pulse 120; respiration 44; temperature 101°. From this time pulse, respiration, and temperature rose rapidly, and the patient became insensible.—6 P.M.: Pulse 144; respiration 60; temperature 102°, still rising. After administering chloral the respiration became easier, but soon became worse. Not much sweating; coarse bronchial râles apparent; paroxysms not increased either in frequency or severity. 10.25 P.M.: Another slight attack of epistaxis; lies moribund; quite unconscious, with attempts to clear his throat of blood. Pulse uncountable; paroxysms about every ten minutes. An injection of chloral given at 10.45 P.M. eased the breathing for some time; but the patient sank, and died at 1.30 A.M. on April 18th.

Coggeshall, Essex.