

of the nerve fibres rather than through the medium of the circulation, the unsatisfactory results obtained in the treatment of tetanus by the use of antitetanic serum becomes apparent.

In the case I have just narrated, the effect of the injection of serum was nil; but inasmuch as the onset occurred within seven days, this is not to be wondered at, for we know from statistics that if the incubation period is *under ten days*, only 4 per cent. recover, whatever treatment is employed.

During the past six years the subcutaneous injection of 3 to 4 per cent. sol. of carbolic acid has been tried, chiefly in Italy, with apparently good results. There appears to be an extraordinary tolerance of tetanic patients to its administration, no sign of carbolic acid poisoning supervening.

Its action has not been satisfactorily explained, yet it seems efficacious if statistics can be relied upon.

During the past few years Meltzer and his co-workers have shown that the injection of magnesium sulphate produces spinal anæsthesia; that no danger to the circulation it noted. Very large doses, of course, produce death from respiratory failure, but this can be averted by artificial respiration.

These striking results have now been utilized therapeutically, and the employment of mag. sulph., injected intraspinally in cases of tetanus, has found a number of supporters, chiefly in America.

McPhedran, of Toronto, reports a case thus treated, in the *Canadian Journal of Medicine and Surgery* for June, 1909.

A boy of thirteen cut his foot in a farm yard. A week later tetanus set in. He remained severely ill for nine days, notwithstanding treatment with bromide and morphine. Two injections of antitetanic serum were next tried without benefit. Accordingly, two days later 2 c.c. of sterilized 25 per cent. sol. of mag. sulph. were injected into the spinal canal in the third lumbar interlaminal space. Freedom from spasms for ten hours was the result.

Next day 3 c.c. were injected, after which the spasms entirely ceased, and in a month the boy was discharged cured.

It is true that the case was not a very severe one, but McPhedran claims that the mag. sulph. had a beneficial effect.