

without the quinine treatment, or, indeed, without any treatment. But the average time of ending of the fever, which may be looked upon as the termination of the action of the living germ and its toxin, is when it terminates by crisis, 7.1 days, when by lysis, 8.4 days. These figures are the result of an analysis of 486 cases, with 100 autopsies, of lobar pneumonia by McRae and others, published in *American Medicine*, January, 1904. They give at the same time the percentage as 60 by crisis and lysis in 28 per cent., atypical, 12 per cent.

Now my experience has been that the disease in the great majority of cases ends in from 30 to 60 hours when quinine is exhibited in sufficient doses, within 24 hours of the initial chill or the initial symptoms.

I have found it so in a large number of cases, so that I have come to consider that quinine taken into the blood acts as a poison to the pneumococcus.

But, it may be argued, Is not pneumonia a local infection? How can the quinine be carried to the consolidated lung tissue?

The disease is so regarded, I mean as a local infection, and undoubtedly there is the local manifestation in the lungs.

But the germ is present in the blood.

Kinsey (*Zeit. für Klin. Med.*) found it in 76 per cent. of 25 cases, and believes that with proper technique, "the pneumococcus will probably be found in the blood of every pneumonia patient."

Prochaska (*Central. für innere Med.*) holds the same, as do all the recent observers whose opinions I have seen expressed. So that the present view seems to be that with proper technique, and notably by employing a large enough quantity of blood in making the culture, the pneumococcus may be demonstrated in every case of pneumonia.

As to its action on the germ in the alveoli, it may be said that any drug which is dissolved in the blood plasma may be exuded in the air cells and thus inhibit the growth of the germ there.

I am aware that quinine has been used in this as in other infectious diseases, but, so far as I can gather, in insufficient quantities.

Thus in a discussion by Petzold on Anfrecht's treatment by quinine, it appears that the treatment was by the hypodermic injection of half a grain of the hydrochlorate of quinine once, twice, or latterly as long as the fever continues.

Osler, in his last edition, speaks of 30 to 60 grains daily. Mitchell Bruce, in his "Treatment in Practical Medicine,"