

zerich, of Germany, in which he advances a theory regarding whooping cough, which would seem to indicate quinine as scientific treatment for the disease. In this paper he says he has discovered a fungoid growth which vegetates in the epithelium of the air passages, and by its irritation causes the convulsive attacks of coughing. He says that the expectorated mucus of whooping cough patients contains masses of brownish red spores with occasional threads of mycelium. These spores he introduced into the trachea of rabbits, and in a short time they became affected with a noisy and violent cough identical with that of whooping cough. These rabbits were killed, and the mucus in the air passages examined, and it was found to contain precisely the same spores, as he found in the sputa of human subjects with pertussis. Writing of the quinine treatment, Dr. Dawson says: "If the Fungus theory of Dr. Letzerich be correct, I can readily account for the destructive influence of quinine on fungoid development. Its power consists in removing the cause of local irritation, which gives rise to reflex phenomena, evidenced by the whoop. For my part I consider pertussis an affection of the mucus membrane of the pharynx and larynx, and the "whooping" as simply reflex. I do not consider the rapid cure affected by quinine due to the simple destruction of the fungus, but also to its nauseating bitter taste. In whooping cough there is an abnormal secretion of thick tenacious mucus from the mucus membrane of the pharynx, which may or may not excite a paroxysm, but which certainly aggravates and prolongs it. This is proved by the fact that the moment this mucus is removed by either coughing or vomiting the paroxysm ceases. The effect of the quinine in solution, when swallowed is instantly, from its bitter taste, to excite a free secretion of thin mucus from the bucal mucus membrane and salivary glands. This softens and renders easy of dislodgement the thick tenacious mucus lodged in the pharynx. The frequent use of this quinine keeps up this action, and in a short time there is no accumulation of the thick tenacious mucus, so that with each act of coughing the mucus is readily loosened and expectorated. Now as to the method of administering the drug. I would wish to direct very particular attention to this portion of my paper, because in Professor Peppers' late work, just completed, in the article on Pertussis it is said: "Quinine may be given in solution, combined with simple syrup, liquorice

also disguises the taste admirably for children." I am sorry to see in so recent an article, and in so able a work, advice so pernicious and so calculated to bring discredit on the quinine treatment. Let me state most emphatically that if good results are desired, the quinine must not be disguised in any shape or form, nor must anything be given for several minutes afterwards, having this object in view. If there is one point on which all advocates of this treatment are agreed it is that it must be given pure and alone. Wherever I have found apparent failure attend the use of this drug, it has been when parents have disregarded my express instructions on this point.

The directions for the quinine treatment may be tabulated as follows:

1. Give the quinine (sulphate preferable) dissolved by and in pure water. For children under three years from gr. ii. to gr. viii., and for older children and adults from gr. x to gr. xl, to the ounce of water.

2. Give not less than one teaspoonful every hour, or at longest every 2 hours, during the day, and several times during the night.

3. Give nothing with or afterwards for at least five minutes to destroy the taste or wash out the mouth.

4. Continue to give it although the first few doses may be vomited; repeat it at once.

5. Be sure that the quinine is pure and that it is thoroughly dissolved.

I have now the notes of over one hundred cases of whooping cough treated by quinine. This embraces all the cases which have come under my care, since 1879, and I have yet to meet with a failure. Some have been longer than others in yielding, but as a rule within a week, the effect is most evident, and, as a rule, you can procure a perfect cure in at most a month. In conclusion allow me to give you brief notes of three cases. One, my first case, that of my own child; the last two within the last three months.

E. W. C. attacked with a harsh cough January 26, 1879. On February 2, the true character of the disease was manifest, the following day the paroxysms were intense and frequent. Feb. 4. Got his first dose of quinine at 9 a.m. During the following night the paroxysms were less numerous and decidedly less severe. Feb. 6. Passed an excellent night, although he coughed several times. From this to February 27, he steadily improved, and by the first of March was quite convalescent.