

TREATMENT OF SUNSTROKE BY THE SUBCUTANEOUS INJECTION OF QUININE.

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The experience of several medical officers in India is now apparently sufficient to prove that the hypodermic injection of quinine in heat apoplexy is the the most successful method of treatment that has yet been adopted. I have had conversations with several who have used it; and a friend of mine, a Surgeon-Major, recently returned home, said to me:—"If there is anything in the practice of medicine which may be described as *magical*, it is the effect of the subcutaneous injection of quinine in sunstroke." Records of a good many recoveries have been published; but as a typical case, I select the following one recorded by Surgeon-Major T. C. O'Leary, M.B., Royal Horse Artillery, in the "Annual Medical Report of the Army for the year 1872." As I presume most of the readers of the *Practitioner* do not see this blue-book, I insert the case here in full:—

"A man of the D brigade, Royal Horse Artillery, was, with others, unavoidably exposed in shifting baggage at the break formed by the Kistna river, on the line between the Madras and Bombay Presidencies. He was young, healthy, and had not been drinking. The train was about to start at three o'clock in the afternoon, from Raichare, when he staggered up to the carriage set apart for the sick, and asked for admission, saying 'he was dying.' The bell had rung, and no time was to be lost. The water chatties were filled, a lump of ice procured, and the two medical officers accompanying the Brigade entered the carriage with him. The cold douche was assiduously employed, ice was applied at the nape, and friction of the limbs kept up. Though the temperature of the surface was brought to its natural standard, the patient was making no rally, and the heart's action was rapidly failing. Stimulants could with much difficulty be administered, as the jaws were firmly closed, and complete insensibility was almost established; in short, the case was becoming desperate.

"Quinine had been constantly recommended in cases of this nature, and, as a syringe was at hand, it was determined to introduce the drug subcutaneously. The effect was closely watched, and after the first injection the pulse at the wrist was felt to flicker; this encouraged a further trial, and the result was so satisfactory that a third injection was accomplished. Within a few minutes the circulation was fully established, the man sat up, stared vacantly about, and recognized those standing near.

"It is only necessary to add, that within half an hour from the time when the first injection took place the patient was partaking of mutton broth, and was partly feeding himself. He soon fell into so comfortable a sleep that the medical officers were at liberty to leave him, and on the arrival of the train, at seven o'clock in the evening, at Goolburga, he was practically convalescent. On reaching Kirkee next morning he jumped out of the hospital carriage, and would have marched to barracks had he been permitted.

"The jolting of the carriage did not permit a nice calculation to be made of the quantity of quinine introduced at each injection, but the apothecary was of opinion that five grains in all must have been passed under the skin. No ulceration took place at the points of entrance of the needles."

During the month of May, 1869, my friend, Mr. Walter Kerr Waller, of Calcutta, told me that he had been very successful in treating sunstroke by doses of 20 or 30 grains of quinine given by the stomach, and advised me to try it. A short time afterwards, I was called to see a driver of my battery, at Barrackpore, near Calcutta, who was a patient in hospital, and who was knocked down with heat apoplexy about five o'clock in the afternoon. I found him completely comatose, with dilated pupils, stertorous breathing, face very much flushed, skin of body red and *burning hot*, pulse full and rapid. I dissolved 20 grains of quinine in 20 minims of dilute sulphuric acid, and about 3 ozs. of water, and attempted to make him swallow it; but in vain. I therefore thought it a good opportunity for trying the hypodermic method.

A solution of 5 grains of quinine in 5 minims