

### MEDICAL MATTERS.

#### SEA-WATER: ARE ITS CURATIVE EFFECTS DUE TO RADIO-ACTIVITY?

The therapeutics of sea-water is being widely discussed in medical circles, an impetus having been given to the question by the treatment by isotonic plasma at the recently opened Quinton Polyclinic, in Poland Street, W.

In this connection, a letter, headed "Sea-water: Are its Curative Effects due to Radio-Activity?" addressed to the *Lancet*, by Dr. Francis Hernaman-Johnson, contains suggestions of vital interest. He writes:—

"In the *Lancet* of August 5th, Dr. I. C. Maclean and Mr. L. de C. Harston record a case of toxæmia, presumably of intestinal origin, which cleared up in a remarkable manner, under injections of sea-water. They state that Dr. H. D. Rolleston, who saw the case in consultation, regards the good effect as possibly due to the large amount of sodium chloride introduced into the tissues. Other writers have also held this view. Leary, for example, states that the action of isotonic sea-water solution is practically neither more nor less than that of physiological saline. If this be indeed the case, then the careful process of collection and preparation becomes simply an elaborate farce.

"But is the action, osmotic or chemical, of sodium chloride the complete explanation of the therapeutics of sea-water? Discussing, some months ago, the treatment of mucous colitis, I suggested that radio-activity may play a part in the effects produced. Since then further investigations have strengthened this belief, and it may be of interest to state briefly the facts on which I base my conclusion.

"In the course of my practice, I receive many cases of lupus and of indolent leg ulcer for treatment by X rays. Amongst other work, obstinate cases from the Auckland Union Infirmary come under my care, whereas the simple examples are treated by other methods. Through the courtesy of Mr. Mark A. Wardle, I was enabled to watch the progress of some of these latter, *pari passu* with that of my own cases under X rays. The clinical course and results, allowing for difference of severity, were so strikingly similar, that I was led to the conclusion that the same agent—radio-activity—might be at work. Beyond a casual reading of Robert Simon's article, I had not till this time taken much interest in the therapeutics of sea-water; but I have since consulted all the literature available to me on sea-water injection, sea voyages, and radium-water therapy.

"I find that the two agents agree in the following properties: 1. General tonic and stimulant action; this is produced with great rapidity and thus differs from the slow effects obtained by medicinal tonics. 2. The production of diuresis, and alteration in the output of urea and uric acid. 3. Continued administration results in gain in body weight, with accompanying speeding up of metabolism, increase of appetite, and increased output of CO<sub>2</sub>. 4. Therapeutically, marked benefit is produced in neurasthenia, intestinal auto-intoxication, certain skin diseases, chronic joint troubles, early tuberculosis, and some cases of albuminuria. 5. Radium-water, whether artificially prepared or obtained from natural springs, owes its activity to dissolved 'emanation,' which is a gas. This gas, which, under natural conditions, is being constantly renewed, loses its activity fairly rapidly, declining to half value in less than four days. It may be removed from the water by boiling for some time. *The therapeutic value of sea-water is destroyed by heat; nor is it of any use after it has been kept three weeks.* Of the truth of these statements I have had ample confirmation in my own practice.

"A pertinent question is: Does the physicist recognize the presence of radio-activity in freshly gathered sea-water? At the recent meeting of the British Medical Association in Birmingham, Professor Farr (Chair of Physics, Christchurch, N.Z.), gave an address on the 'Effects of Radio-active Water on Fish.' In connection with this subject, I mentioned to him my views on sea-water treatment, and he informed me that ocean-water is to some small extent radio-active, and that this activity is mostly due to dissolved emanation.

"I submit, therefore, that in view of the fact that sea-water is radio-active, and that its physiological and therapeutic effects so strikingly resemble those of radium water, there is very good reason to believe that its curative powers are, at any rate in great part, due to the emanation which it contains. In radio-activity we have an agent capable of producing all the diverse and powerful effects which are claimed for sea-water treatment—effects which range from the cure of lupus to the banishment of an obscure toxæmia, such as that described by Dr. Maclean and Mr. Harston. So far as I am aware, no salt or combination of salts could accomplish such results.

"If my theory be correct, its practical importance is obvious. Ocean-water is kept constantly radio-active, probably as a result of submarine volcanic processes. Once removed, however, it rapidly loses its virtue."

[previous page](#)

[next page](#)