

increased quantity ratio of voided urine to fluid drinks. For example, on the 12th of March she passed 162 ounces of urine with a sp. gr. of 1004 and drank only 140 ounces, but on the following day she voided 144 ounces, sp. gr., 1004 $\frac{1}{4}$, and drank 157 ounces. I regret that I neglected to estimate the proportion and total quantity of urea in these instances.

As for the treatment, I have only to say that beyond ordering frequent sponge-baths, variety in drinks used, insisting on the patient's taking easily digested food and living generally a strictly hygienic life, I gave nothing in the way of medicine, unless a placeboic quinine mixture be considered as such. In fact I endeavored as much as possible to carry out Bouchardat's directions for the conduct of such cases.

I do not know, however, that this treatment had much effect on the disease. It seemed to me that the polydipsia, thirst, dry skin and nervous disorders were about as plainly marked when I first saw her on the 10th of March as they were during the week before these symptoms so suddenly left her on the 7th of August. Probably if I had grown tired of practising hygiene about the 1st of that month, and had given fld. ext. of ergot, as Da Costa advises, or had followed in Trousseau's footsteps and administered powdered valerian, or had even prescribed diluted nitric acid, with which Henry Kennedy has never yet had a failure, I might now entertain a different opinion on the question of therapeutics in diabetes insipidus; as it is, I know that my patient recovered in much the same way she took ill, and that the disease displayed throughout the most sublime indifference to hygienic measures.

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Progress of Medical Science.

THE HYPODERMIC INJECTION OF MORPHIA.

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It is generally recognized that Dr. Wood, of Edinburg, was the first to administer medicines hypodermically, as he made use of this method as early as 1843. It was made known after being

extensively tested, and the results were published in 1859 by Dr. Charles Hunter, of London, while Behier, Courty and Follier, of France, and Oppolzer, Scanzoni and Graefe, of Germany, are chief among those who, in that and the succeeding year, spread intelligence of its merits. Mr. Rynd, of Dublin, claims that the subcutaneous injection of medicinal substances, to combat neuralgia, was first used by himself in 1844. Dr. Sieveking, of London, attempts to establish that Dr. Kurzak, of Vienna, was the first to inject medicines under the skin. Dr. Isaac E. Taylor, in an article in the *New York Medical Gazette*, April, 1870, claims that Dr. Washington and himself used this method in 1839. They punctured the skin with a lancet, and employed an Ansel's syringe to throw a solution of the medicine under the skin. In this country, Dr. Rupperer was the first writer upon hypodermic medication (May, 1860). In 1865, Dr. Charles Hunter edited a work, "On the Speedy Relief of Pain and Other Nervous Affections by Means of the Hypodermic Method." In the same year appeared Dr. Albert Eulenberg's book on "The Hypodermic Injection of Medicines Treated According to Physiological Experiments and Clinical Experience." In the same year, Dr. E. Lorent, of Bremen, published a treatise on his "Clinical Experience with Hypodermic Injections." During this year appeared the first book written on this subject in this country, by Dr. A. Rupperer, of Boston, on "Hypodermic Injections in the Treatment of Neuralgia, Rheumatism, Gout and Other Diseases." The most excellent and comprehensive book of Dr. Roberts Bartholow, on "The Treatment of Diseases by the Hypodermic Method," has passed to its third edition. Dr. H. H. Kane has edited a work on "The Hypodermic Injection of Morphia: Its History, Advantages and Dangers," 1880; also "Drugs that Enslave," 1881, which treats of the opium, morphia and hashisch habits.

In regard to the salt of morphia to be used hypodermically, there are various opinions. Dr. Eulenberg prefers the hydro-chlorate; his formula is four grains of the hydro-chlorate of morphia, four drops of hydro-chloric acid, one drachm of distilled water. Dr. Wilson (*St. George's Hospital Reports*, Vol. iv) claims that the sulphate should be used without the addition of acid. Dr. Bartholow prefers the sulphate, and it is the salt most frequently employed. Dr. Anstie dissolves the acetate in hot distilled water, with a minimum of acetic acid. Dr. Lawson, in the *Medical Times and Gazette*, Nov., 1870, recommends a solution of the muriate, gr. x, to aqua destil. ʒii. This solution requires heating to give it fluidity at ordinary temperature. The addition of one-forty-eighth of a grain of atropia, to one grain of morphia, is preferred by Dr. Brown-Sequard in obstinate neuralgias. Dr. H. H. Kane ("Drugs that Enslave") advises the use of the following formula for the preparation of solution of morphia, that will keep for a long time unchanged, never