

the record that the epileptic attacks had returned. The laryngitis, however, occasionally threatened, and had to be kept in check by iodide of potassium. Mr. Thornton regards the infrequency of the pulse as due to the syphilis. This case decidedly supports the view that slow pulse, with attacks of unconsciousness, may be altogether of cerebral and not of cardiac origin. We may consider, I think, that this holds true of a certain number of cases, that they are true epilepsies, and that the heart is only secondarily affected. Many others, probably, have a twofold origin, partly in primary failure of the heart, partly in instability of the brain, whose normal working is with more than ordinary facility deranged by a defective supply of blood. The anæmia, which to a vigorous sound brain would be of no great moment, may tell very seriously on one whose life-power is waning, and whose nerve-cells are ill-nourished. The phenomena in different subjects may vary very much, being more syncopal in some, more epileptic in others. If the epileptic tendency is wanting altogether, the result will be simple swooning. Between syncopal attacks and those of minor epilepsy, "there is, perhaps," says Dr. R. Reynolds, "a much closer analogy than is sometimes supposed." The affinity between the two is shown by the liability of syncope to cause convulsions, and by that of epilepsy to cause arrest of the heart, while both produce unconsciousness.

Referring now to our cases, I think they must be regarded as belonging to the class of double origin. The heart was not sound in either, but had not a decided epileptic tendency existed the peculiar seizures would not have occurred. Bromide of ammonium, with iron or phosphorus, or cod oil, one or more, would be the best drugs I conceive to employ in similar cases.

ON THE CURATIVE INFLUENCE OF AN EXCLUSIVE MILK DIET.

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I HAVE read with much interest Dr. George Johnson's lecture on the *curative* influence of an exclusive milk diet in certain affections, but more especially in Bright's disease. "It is impossible," he observes, "to over-estimate the *supreme* importance of a strict attention to diet in *all* cases of albuminuria." Further, he distinctly points out that, in the inflammatory form of Bright's disease especially, the dropsy and albuminuria rapidly disappear under an exclusive milk diet, and that the too early addition of solid food causes a return of the albuminuria. Of this he records a strikingly illustrative case. It is exceedingly gratifying to myself to find so distinguished a physician as Dr. Johnson so forcibly advocating principles of practice which I have so strenuously and persistently maintained since I introduced this method of treatment of the acute and chronic nephritic form of Bright's disease, based on extensive experimental investigation, to the profession, in THE LANCET (in 1869) seven years ago, and more recently in my work on the subject.

But unfortunately there are two points at least, and these too of very great importance in a practical point of view, on which Dr. Johnson and myself are at issue. These are—first, that he prefers unskimmed to skimmed milk; and, secondly, the mode of administration which he recommends.

Dr. Johnson observes that amongst other reasons for preferring unskimmed milk one is that it is less apt to produce constipation, on account of the cream it contains. But this is a trivial objection, because, by a little judicious management, constipation can be obviated. Moreover, as I have pointed out elsewhere, constipation is a sure sign that the treatment is agreeing with the patient; whereas diarrhoea, on the contrary, is a very untoward indication, and extremely more apt to be induced by unskimmed than by skimmed milk. Diarrhoea, indeed, is the chief obstacle to

be encountered in the application of the treatment in certain cases, and in these the tendency is sometimes very difficult to overcome. Besides, for these reasons skim-milk is very much superior to the unskimmed in the treatment of the diarrhoea of typhoid fever and dysentery, which Dr. Johnson so highly commends in his lecture.

I must now advance my own objection to unskimmed milk as compared with the skimmed. First, then, on account of the cream contained in it, the unskimmed very often disagrees with the patient when taken as an *exclusive* diet, to the extent of from three to six pints, required for the nutrition of the adult in Bright's disease. Skim-milk, on the other hand, from the small quantity of fatty matter it contains, seldom disagrees if its administration is begun and continued by rule. In the course of my experience, which has been by no means limited, I have only met with *one* case in which the patient could not be brought under its influence. In the next place, unskimmed milk is not by any means so powerfully diuretic as skim-milk, and this because it contains less casein or albuminate than the latter, on which the extraordinary diuretic property of milk in *renal dropsy* undoubtedly depends. Thirdly, the cream of unskimmed milk is highly pernicious in chronic nephritis when fatty degeneration of the glandular epithelium of the renal tubules has begun. Under such circumstances I have frequently found the albuminuria and dropsy increase when unskimmed milk has been substituted for skimmed, as I have already stated elsewhere.

Such, then, are my reasons, and they are by no means trivial, for preferring skimmed to unskimmed milk in the treatment of Bright's disease and other affections.

I next come to the hints given by Dr. Johnson for the administration of milk. He states that not more than a pint should be taken at a time. With this recommendation I agree, so far as Bright's disease is concerned; but many instances occur in which it is necessary to begin with doses of a wineglassful or even less, and to gradually increase the quantity until a daily allowance of from three to six pints is reached. But I venture to affirm that in this class of affections in particular a gallon cannot be consumed daily without injury, sometimes serious, accruing, and especially so if the milk is unskimmed. A nephritic or other patient should not be permitted to drink as much milk as he can or whenever he pleases. On the contrary, the most rigorous rules as to quantity and intervals of administration should be observed, if the cases are not of the very mildest description. To this point I have repeatedly directed attention. The characters of the casein, chemical and physiological, become thereby altered, and the therapeutical action of the milk most seriously impaired. This I have ascertained by experiment. The milk may, however, be warmed.

I have already stated that the diuretic action of milk—skim milk especially—in *renal dropsy*, is generally remarkable, even after all ordinary diuretics have failed; it is certainly not due to the water, but to the casein it contains, the latter being indissolubly combined with the salts of milk; the phosphates in abundance especially. Genuine milk has a specific gravity of 1030 to 1035, whilst that of skim-milk, proportionately *richer in casein and salts*, is from 1035 to 1040. The continuous digestion and absorption into the blood *exclusively* of a food so rich in albuminates, and of so high a density into a blood rendered hydræmic, and with a serum reduced in specific gravity to 1020 or even 1016 from the loss of albumen, immediately puts into action the force of *osmosis*, and excites into greatly increased activity the general osmotic circulation between the blood and the tissues. A rapid influx of blood from without into the enriched blood is induced and continued; the result being vascular plethora, which is relieved by profuse diuresis; this in its turn washes out the uriferous tubules previously choked up and distended by tube casts and diseased epithelium. The pressure of the swollen tubules is thus removed from the renal capillary system, a normal circulation through them becomes re-established, the distension of the Malpighian tufts is relieved, the albuminuria and dropsy disappear *pari passu*, and finally a healthy nutrition is restored to the kidneys. Such I believe to be the true explanation of the earlier stage at least of the curative influence of the skim-milk treatment in the inflammatory form of Bright's disease.

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