

gested. The congestion, in some instances, is altogether due to an excess of work thrown upon it, in consequence of suppressed or deficient action of the skin, and in all cases the carrying out of the natural function of the organ tends to increase any existing congestion. Can the kidney be in any way relieved of this functional irritation? Is there any organ which, in other words, can supplement the kidney? Such an organ is the skin. A second indication, therefore, is to excite the action of the skin. And in fulfilling this lies the advantage already referred to from the maintenance of warmth and avoidance of cold early insisted upon. But we are not confined to these protecting measures. The skin may be made to do the work of the kidney itself, and thus one of the most alarming dangers of Bright's disease, uræmic intoxication, averted, while at the same time the congestion of the kidney is also relieved.

The class of remedies which produce this action are diaphoretics; and, of the internal remedies, none is better than the ordinary sweet spirit of nitre, especially if it be combined with small doses of ipecacuanha. But a more effectual and certain method of accomplishing the same end is by warm baths, or, better still, by the so-called warm or "cold pack," in which the patient is wrapped in a wet sheet and then enveloped in a sufficient number of blankets. Perspiration is thus copiously induced, and when thus caused is agreeable, and never attended by the faintness which sometimes follows the use of the hot-air bath,—another means of accomplishing the same end, which will be further considered under the treatment of chronic Bright's disease. In an ordinary severe case of acute Bright's disease, a single pack of this kind will remove all symptoms which may cause anxiety, and happily inaugurate the convalescence, while it may be repeated daily, if necessary.

We may resort to purgatives to the same double end, that of relief of congestion and a complementary action of secretion, and to a certain extent these should always be employed. But the reason for which I primarily employ a purgative is less for either of these objects than for one which I deem even more essential, and that is to promote the action of other remedies, a purpose which applies not only to the treatment of Bright's disease, but also to all diseases. It is a well-known fact in the absorption of fluids, which is borne out by the phenomena of osmosis, that this does not take place rapidly when the blood-vessels are congested and there is a slowly-moving current.

The beautiful experiment of Magendie, which consisted in injecting into the peritoneal cavity a colored fluid, which at first was not appreciably absorbed, but which, on opening a blood-vessel, disappeared rapidly before his eyes, is sufficiently to the point in illustration. The treatment of any case of acute Bright's disease is therefore well commenced by the use of a cathartic, and after its effect the prompt action of other remedies may be looked for. Indeed, it is quite useless to administer diu-

retic remedies before some action is obtained from the bowels, as they will be many hours in producing their effects; whereas after such influence they will be as many minutes. Beyond this end I am not in the habit of giving purgatives in ordinary cases of acute Bright's disease. But there is a condition in which the eliminative action already referred to is often of signal service, and that is the one of uræmic coma and convulsions. Under these circumstances, when the patient cannot be made to swallow, and decided and prompt effect is desired, a couple of drops of croton oil on the tongue have many times saved life by inducing prompt and decided purgation.

Nothing has been yet said of the use said of diuretics, which are, perhaps, the first means thought of by most practitioners in the treatment of Bright's disease, acute or chronic, and no doubt, in many cases they deserve an early consideration. Yet the propriety of their use has been much disputed, and at first thought there would seem to be legitimate objection to them in the treatment of acute nephritis, for with the idea of increased secretion of urine is generally associated that of an increased flow of blood to the kidney. And the question naturally arises. That a kidney already congested and inflamed be further jeopardized by crowding more blood into it? On the other hand, it is well known that convalescence in a case of acute Bright's disease which has been left to recover without treatment is always ushered in by a most copious diuresis. This is usually explained by the fact that urea itself is a decided diuretic, as may be shown by injecting it into the blood-vessels of any animal,—an operation which is followed by copious diuresis. In the early stages of Bright's disease the urea and other organic constituents are retained in the blood, and when the circulation through the kidney becomes free, they exert their diuretic action. It will be observed, however, that this takes place only after the circulation becomes free; and it must be looked upon, therefore, not so much as a cause as a result of an improvement in the condition of the organ. Nevertheless, to facilitate such a condition of affairs as copious secretion of urine, and with it the elimination of those effete matters the accumulation of which constitutes the chief danger of Bright's disease,—uræmia,—can only be considered desirable if it can be done without exciting congestion of the kidney. The secret in the proper use of diuretics lies in the selection of such as effect their object without producing a congestion; and such there are. To understand this properly, it must be recalled that the secretion of urine is largely a process of filtration, a process of squeezing out the water and dissolved elements by pressure from behind, and that this is accomplished in the Malpighian bodies by the agency of the arterial pressure and the force of contraction of the heart. It must be remembered that there are two sides to the renal capillary circulation, an *arterial*-side and a *venous* side. The first consists in the afferent arteriole and the capillary ball contained in