

The value of the various bromides depends on their proportion of bromine. Bromide of potassium contains 66 per cent, sodium 73, and lithium 92 per cent. We should, therefore, expect a more powerful influence from the latter agent, and, according to Weir Mitchell, it has a more rapid and intense effect. The sodium, however, answers every purpose, and has several points in its favor over the other bromides, is pleasanter to the taste, more acceptable to the stomach, causes little cutaneous irritation, and much less muscular prostration. In this connection, recent experiments and observations by Drs. Ringer and Murrell on the superior value of the sodium salt are of interest and may be found in the *British Medical Journal*, 1883.

Either of the bromides, in powder or concentrated solution, is somewhat irritant, sometimes producing emesis, and in any event, delaying its absorption. A practical point, then, is that it be given largely diluted. Dr. Clarke says, "there should be at least a drachm of water to each grain of the salt." We give each dose of the sodium in six or eight ounces of cold water, and have never known it to cause vomiting.

To secure the requisite degree of sedation within a limited period, it is essential that the bromide be given in full doses. We are convinced that failure in its use, in any neurosis, is very often due to a non-observance of this point. Our initial dose of the sodium is 60 grains, twice daily, at twelve hours intervals, increasing the amount 20 grains each day, *i.e.*, 70, 80, 90 grains, and continuing it 5 to 7 days, reaching a maximum dose of 100 to 120 grains twice in 24 hours. During this time of bromidal medication, the usual opiate is gradually reduced, so that from the eighth to the tenth day it is entirely abandoned. A decrease of one-quarter or one-third the usual daily quantity is made at the outset, experience having shown that habits are almost always using an amount in excess of their actual need, and this reduction occasions little or no discomfort. Subsequently, the opiate withdrawal is more or less rapid according to the increasing sedation, the object being to meet and overcome the rising nervous disturbance by the growing effect of the sedative, in other words, maximum sedation at the time of maximum irritation.

Exceptions to this may occur. Some patients are so weak and anæmic, on coming, that a previous tonic course is deemed judicious, the usual

opiate is continued for a time, and, meanwhile, with good food, tonics and other measures an effort is made to improve the impaired condition, and with success, for we have seen patients gain markedly in strength and weight during this roborant regime.

Sometimes, a patient, before placing himself under our care, has reduced his daily taking to the lowest amount consistent with his comfort. If so, the initial large reduction is not made, but the decrease is gradual throughout. Again, in some instances, no reduction is made for two or three days, at the end of which the bromide effect is secured, in part, and the decrease is then begun. And in all instances, this rule governs, *each case is a law unto itself and the length and amount of the bromide giving and consequent rate of opiate decrease is determined entirely by individual peculiarity as shown both before and during treatment.*

Surprise may be expressed and objection made regarding the extent of the bromide doses, but the fact must never be overlooked that we are not to be governed in the giving of any remedy by mere drops or grains, but by the *effect produced*. Again one effect of opium addiction is a peculiar non-susceptibility to the action of other nervines, necessitating their more robust giving to secure a decided result. More, under the influence of certain abnormal conditions, doses which ordinarily are toxic become simply therapeutic. The annals of medicine abound with instances in support of this statement, and among the most striking may be noted the following: Dr. Southey read before the Clinical Society of London notes of a case of tetanus which occurred in a boy ten years old. The first symptoms of trismus were observed two days after a severe fright and drenching due to the upsetting of a water butt. They steadily increased up to the date of his admission to St. Bartholomew's Hospital, on the eighth day of his illness, when the paroxysms of general opisthotonos seized him at intervals of nearly every three minutes. Each attack lasted from fifteen to thirty seconds, and although between the seizures the muscles of the trunk became less rigid, those of the neck and jaw were maintained in constant tonic cramp. The patient was treated at first with chloral, ten grains, and bromide of potassium twenty grains, every two hours, and, afterwards, with the bromide alone in sixty grain doses every hour and a half. When about two ounces were taken in twenty-four hours, the attacks became less frequent, but at first each