

monium is still more exciting, so that the three united salts do not present any advantage over the potassic bromide, which figures for one-third in the mixture styled the polybromide.

*Absorption and Dose—Effects of the Bromide on the Eliminant Organs—Slight Bromism of the Respiratory Mucous Membrane, and of the Skin.*

The bromide is readily and promptly absorbed by all the mucous membranes; after some minutes it appears in the urine, and is eliminated almost in totality in two or three days; hence the imperious necessity of continuing the treatment without interruption; at the most it may be suspended for a day at a certain time, or the dose may be decreased; but to suppress it is dangerous. I have seen patients who, from having neglected the use of the medicine for a few days, have been attacked with convulsive fits after a quietude of eight months or a year.

The bromide is eliminated by the kidneys in great part, very little by the salivary glands, and still less by the stomach; and these organs are, as we shall show, but little impressed by it. The same fact does not apply to the respiratory mucous linings, which also serve as a means of passage to the bromide; they are profoundly altered in its elimination. The pharyngeal mucous membrane becomes the seat of a pricking, painful sensation, and of a well-pronounced paleness, due to the local ischæmia; after the doses have been raised to five or six grams, the velum palati is anæsthetised more or less completely. Voisin, who has closely studied the effects of the bromide, advises that it be taken to the extent of 10 or 12 grams, that is to the production of insensibility of the isthmus of the fauces, which would be the sign of saturation; but there are such individual differences in this respect that we should run the risk of poisoning the patient before this indication of brominal impregnation might appear, which is, so to say, *en passant*, perfectly useless. Voillez has spoken of directly anæsthetising the fauces with gargles strongly bromidised, with the view of restraining the cough as well as the vomitings that follow the kinks in whooping-cough and phthisis; this mode of extinguishing the impressions of sensibility, which provoke the reflex acts of coughing, has had no good result; it is, in fact, very difficult to prolong the contact of the bromide

with the pharyngeal wall until we effect the loss of sensibility of the mucous membrane. The bromide does not act until after the gastric absorption, and the commencement of elimination of the bromide by the mucous membranes. For the same reasons we do not obtain, unless with difficulty, insensibility of the mucous membrane of the larynx from the mere action of bromidal sprays; in order to extinguish the sensibility of the larynx, as well as of the pharynx, it is necessary to imitate the process of Voisin, and saturate the patient; but to push to this extremity is very dangerous.

The bronchii are frequently the seat of a sharp irritation, which results precisely from the elimination of the bromide by the secretory glands, when it is presented as well as in the bronchial mucosa, in saturated epileptus; this bromic bronchitis, which is introduced by a short, irresistible cough, dry at first, and followed by a slight expectoration, is one of the most grave obstacles to the continuous treatment which epilepsy demands; I had believed it well to quiet this cough, which occurs chiefly in the night, by conjoining atropia with the morphia, but the result of the combination was generally harmful: either the cough did not cease, and it became necessary to interrupt the treatment, and even in three of the most grave cases to give up all medication; or, though the narcotics succeeded in calming the cough, yet they nullified the effects of the bromide; it appeared to me, however, that the tincture of the root of aconite, in doses of one grain per day, presented some advantages over the other narcotics, and above all over the expectorants (such as antimony, sulphur, turpentine), which only aggravate the evil. What, then, after these facts, which are so easily proved, are we to think of the prescription, in obedience to certain precepts, of the bromide in bronchial irritations?

I do not know of any sort of cough, whether of whooping-cough, of hysteria, or still less of tuberculosis, in which relief is derived from the bromide; the very contrary is the result. It must be stated that these prejudicial effects are observed even with the moderate doses of three grams; I have seen a young epileptic girl who could never exceed the dose of a gram and a half. What, then, would have been the result of large doses? In studying the grave bromism we shall find pulmonary inflammations resulting from the abuse of