

found it to possess other properties, which have not as yet been mentioned: of these experiments I propose to give a short synopsis.

The dose is from sixty to ninety grains given in the form of an infusion made with boiling water; the whole to be taken at one draught, and the patient is then to be covered up warmly in bed. Continho recommended that the suspended leaves were to be taken along with the infusion, but Ringer found the strained infusion, a tincture, and an extract, equally efficacious. To children thirty and even sixty grains were given, by the latter, most frequently without producing any effect; they appear to be able to bear as large a dose as an adult, without developing the diaphoresis and ptialism, for though occasionally these did occur, yet such instances were exceptional.

In ten minutes after the draught, the face, neck, and ears become flushed, and profuse perspiration soon follows, saturating the bed clothes, and saliva, on some occasions amounting to twenty, twenty-two, and even to twenty-seven ounces, streams from the mouth; this condition lasts from two to five hours, and then these effects simultaneously decline. The secretions from other mucous membranes are also said, by different experimenters, to be increased, such as that from the nasal and lachrymal apparatus, as well as from the bronchial and the gastro-intestinal. Gubler asserts that diarrhœa often ensued. Ringer, however, states that he has never observed this result though he had administered it to several lads of from eight to twelve years of age, to seventeen children between three and ten years, and to thirty-eight adults.

During the diaphoresis the temperature fell about one degree, this fall took place about an hour and a half after the dose, and the diminution of heat sometimes continued for the remainder of the day. The pulse was quickened for about four hours, after which it returned to its previous condition. In one case where the pulse was intermittent it became regular while under the influence of jaborandi; ordinarily the pulse was augmented twelve to forty beats per minute. Nausea and vomiting sometimes occurred two or three hours after the potion; occasionally the vomiting was repeated three times, and often sleep followed. The flushing of the face was succeeded by pallor, and some prostration. Flushing of the face always preceded sweating, where that was wanting no diaphoresis resulted. It deranges vision, and contracts the pupil; applied topically to the eye, it does the same. Super-pubic pain was also occasionally complained of, along with a strong desire to void the urine,

which symptoms were immediately relieved on micturation. It did not increase the quantity of urine—and in one case it proved to be a lactagogue. Some of those experimented on complained of hot and cold sensation on the day following, and one of a throbbing within the head. The effects of the medicine were found not to be diminished by repeated use. In some respects it resembles somewhat belladonna in action, but in most of its physiological effects it is directly antagonistic to that remedy, thus:—

Belladonna.

Jaborandi.

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| 1. Flushes the face. | 1. First, followed by pallor |
| 2. Quickens the pulse. | 2. does the same |
| 3. Affects the bladder. | 3. " " |
| 4. Affects children less than adults. | 4. " " |

They differ, however, in the following respects :

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| 1. Checks secretion from the skin, salivary glands and mucous membranes. | 1. Increases them; |
| 2. Dilates the pupil. | 2. Contracts it. |
| 3. Contracts the arterioles. | 3. Dilates them. |
| 4. Is lactifuge. | 4. Is lactagogue. |
| 5. Excites delirium. | 5. Produces sleep. |

Ringer observing this antagonism injected the 1-100th part of a grain of atropine hypodermically into each of three men, under the full effects of jaborandi, and in ten to twelve minutes the sweating and salivation ceased. And singularly enough while he was experimenting on this point, a lad was admitted into the hospital who had been poisoned with one grain of atropine; five hours after he had imbibed the poison, thirty grains of jaborandi were administered to him, in fifteen minutes his mouth had become more moist, and in an hour he was sweating freely.

Sphygmographic tracings indicated very notable diminution of vascular tension during sweating.

The natural inference to be drawn from these reports concerning jaborandi is, that it is destined to prove a very valuable addition to our *Materia Medica*, inasmuch as it will supply a want that is often experienced in the treatment of many cases of dropsy, and in renal affections, especially those depending on congestion, or on inflammation of the kidneys; whilst in pneumonia, bronchitis, erysipelas, and in the exanthemata, small-pox, measles and scarlet fever, its usefulness must be apparent to every scientific observer. Without entering, however, more fully into its therapeutical application, I might add, in conclusion, that arrangements have been