

A

FORMULARY

FOR THE

EMPLOYMENT OF SEVERAL NEW REMEDIES.

RESIN OF NUX VOMICA.

IN the year 1809 I presented to the senior class of the French Institute an account of a series of experiments which had led to the discovery that a whole vegetable family, the bitter strychni, possessed the property of stimulating the spinal marrow to an extraordinary development of its functions, without implicating, otherwise than indirectly, those of the brain; and I then observed that this discovery might be beneficially applied in the treatment of disease. This conjecture has since been abundantly confirmed by numerous evidences at the bedside of the patient. M. Fouquier had, some years before, published several cases of palsy which he had cured by *nux vomica*, and similar experiments had been made with success by myself. Since that time I have never ceased to employ the alcoholic extract of *nux vomica* with the best results, not only in paralysis, but in several other kinds of general or partial debility of the system.

Preparation of the Alcoholic Extract of Nux Vomica.

Exhaust a given quantity of rasped *nux vomica* with alcohol at 40°, and at the lowest possible temperature; then evaporate slowly to the consistence of an extract.

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A weaker spirit gives a much weaker product, as much gummy matter is then taken up by it. The most eligible spirit, because it is most easily obtained, is that at 36° of Cartier's areometer.

Dry Spirituous Extract of Nux Vomica.

Filter and evaporate to a pilular consistence, any quantity of very strong alcoholic tincture of nux vomica. This extract should be kept in a dry locality, on account of its avidity for moisture: for the same reason, when made into pills, they should be well covered with liquorice powder.

Physiological Action.

A grain of the extract absorbed by any part of the body, or taken with food, very shortly kills a middle sized dog, by inducing tetanic attacks, which ultimately obstruct the respiration, and produce asphyxia. A stronger dose produces the same effects, by a direct action on the nervous system. (See Segalas, in *Journal de Physiologie Experimentale*, 1822.) M. Defermon describes, and I have myself seen a contracted state of the spleen consequent on poisoning by this substance. A shock resembling that from electricity takes place in the animal under the action of this poison whenever it is touched: this may be frequently repeated. The division of the cervical spinal marrow, and even complete decapitation, do not prevent the operation of the resin in question—a characteristic which distinguishes the strychnos from all other stimulants.

No traces of its action are found after death.

The action of this extract on the healthy system of man resembles that above described. Nor can any traces of its action be detected in the tissues, except those of the asphyxia that has immediately caused or accompanied death.

Action on the Morbid System.

The effects above described more particularly refer to the diseased parts, which are especially the seats of the tetanic shocks, and the creeping sensation and local sweat that announce the action of the remedy. In hemiplegia so treated, whilst the sound side remains quiet, the diseased side is affected with rapidly-succeeding shocks, copious local sweat, and a general tremor. Sometimes an anomalous eruption is seen on the affected side, the opposite side meantime being altogether free from it. Even one side of the tongue is occasionally sensible of a decidedly bitter taste, which does not exist in the sense of the other. If the dose is augmented, both sides enter, but unequally, into a tetanic state, which is sometimes violent enough to throw the patient out of his bed. In very small doses the action of the extract is scarcely appreciable until after several days.

Diseases in which the spirituous Extract of Nux Vomica is applicable.

The cases for its exhibition are all diseases of local or general debility, and all kinds of general or partial paralysis. M. Edwards cured amaurosis with palsy of the upper eyelid, with it. I have seen most beneficial results from its use in debility of the genital organs, incontinence of urine, in languid stomachs accompanied with somnolency, and in partial atrophy of the upper and lower extremities. It should not be given in paralysis immediately after sanguineous effusion on the brain; indeed, much benefit cannot be anticipated from it when any great organic lesion exists. M. Chauffart (*Journal Gen. de Med.* 1824) gave twenty grains in a case of palsy after apoplexy, without success, though the patient had strong tetanic shocks from its long continued employment. On the other hand, he relates three cases of palsy—one of them of the rectum—that were cured by the remedy.

In the 8th vol. of the New York Medical Repository, Dr. Baxter has recorded the successful treatment of hemiplegia after measles in a child three years and a half old; he gave the patient half a grain of the extract of nux vomica every four hours. M. Gendron (Journ. Gen. de Med. 1824) also gives an instance of the success of the medicine in paralysis of the left arm; the cure was effected in a fortnight, and the dose pushed to 36 grains in twenty-four hours: the patient complained of a prickly feeling of the limbs and shooting pains of the toes. M. Cazenave, of Pau, has successfully used it in a case of chorea.

Mode of employing the Extract.

Pills are the preferable form, and each of them should contain a grain of the extract. The commencing dose is one or two of these, and it may be gradually increased until the desired effect is produced. They should be given in the evening, the night being the best time for ascertaining their effect. Occasionally, it is necessary to raise the dose to 30 or 36 grains in the day, before tetanic shocks are produced: 4 or 6 grains, however, are more usually sufficient. If the remedy is suspended for a time, it should be recommenced in small doses, and then be only gradually increased. Is a slow effect to be produced, half a grain or a grain in the day is sufficient. A spirituous tincture, according to the following formula, may likewise be employed:

Tincture of Nux Vomica.

Alcohol at 36° 1 ounce
Dry extract of nux vomica. 4 grains.

A few drops of this may be given in any mixture: it may be also rubbed into palsied or atrophied parts, as is frequently done in Italy. I have used it in this manner, but I generally find that it succeeds better in combination with ammonia, as in this formula:

Tincture of nux vomica..... 1 ounce.
Concentrated ammonia..... 2 gros.

With this liniment I have been tolerably successful in treating the Asiatic cholera.

[Though the beneficial effects of nux vomica on the mucous membranes is well known, it is probable that its application to them is much less frequent than might be. Dr. Geddings, (North American Archives of Medical and Surgical Science, Nov. 1834,) has recently employed the nux vomica in cases of dysentery, where the febrile symptoms were not strongly developed, but where the frequent necessity of going to stool, tenesmus, sense of weight in the rectum and passage of sanguinolent mucus, alone stamped the dysenteric character of the disease. In some of these cases the remedy proved useful, though not effectual in the cure; in others, the action was most beneficial.

He begins by administering powdered nux vomica in the dose of seven grains, three times a day. In one individual the disappearance of the colic, tenesmus, &c. was surprisingly rapid. The same remedy succeeded in other cases, as did also Pelletier's alcoholic extract given in the dose of two grains three times a day, and the acetate of strychnia in quantities from 1-12th to 1-6th of a grain. Dr. Geddings thinks it advisable to add a small proportion of opium to any of these forms of nux vomica.

A recent writer, Dr. Most, has used nux vomica with advantage in what he terms pituitous dysentery: he recommends the following formulary:

Take 60 grains of nux vomica: boil for half an hour in a quantity of water, so that it shall be reduced to 6 ounces; then add a drachm of tincture of opium. Of this a desert spoonful may be taken every two hours.

A Swede, Hagstrom, was the first who used and recommended nux vomica in dysentery. Hufeland also gave it with advantage in epidemic dysentery. Thomann and Richter say it is a powerful calmer of the painful colics of that disease: the latter prescribes it thus:

Extract of nux vomica.....	2 scruples.
Mucilage	1 ounce.
Distilled water.....	6 ounces.
Syrup of marsh mallow.....	1 ounce.—Mix.

A table-spoonful every two hours.—*Tr.*]

STRYCHNIA.

The spirituous extract of nux vomica, nux vomica itself, St. Ignatius' bean, the Javanese poison, (the *upas tieuté*),* and the snake-wood, all owe their violent action on animals to two vegetable alkalies discovered by Pelletier and Caventou, one called *strychnia*, the other *brucia*. These alkalies are found in combination with a vegetable acid, the *igazuric*. (See *Ann. de Chim.* 1819.)

Preparation of Strychnia.

Dissolve the spirituous extract of nux vomica in water, and add solution of acetate of lead until all precipitation ceases. On separating the superfluous matter, the strychnia remains in solution with some colouring matter, and sometimes an excess of acetate of lead, which is to be separated by a current of sulphuretted hydrogen; then filter and boil with magnesia, which combines with the acetic acid and gives a precipitate of strychnia and brucia. Wash these in cold water, redissolve in alcohol in order to separate any excess of magnesia, and by evaporation a mixture of strychnia, brucia, and colouring matter is obtained. Macerate the whole in a little weak alcohol, in which the brucia and colouring matter are easily soluble, while the strychnia remains in the shape of a powder, and is taken up by boiling rectified alcohol. Evapo-

* This is different from the *upas anthiar*, causing death by tetanus, whilst the *anthiar* is fatal by producing excessive vomiting. MM. Pelletier and Caventou have extracted a vegetable salifiable base from the last-named plant, which is highly poisonous. (*Ann. de Chim. et de Phys.* t. 26.)