

In surgical diseases and operations of various kinds, the combination of morphine and atropine has most important and varied applications, among which may be enumerated: to render safer and to prolong ether or chloroform narcosis; to prevent or relieve shock; to save suffering; to relax muscles; to facilitate operative procedures.

The combined administration of morphine and atropine is of the greatest service in obstetric practice: to relieve the teasing pains of the first stage; to procure sleep in the course of an exhausting labor; to quiet after-pains; to facilitate the performance of various obstetric operations; to arrest puerperal convulsions.

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Humulus.—Hops. The strobiles of *Humulus lupulus* Linné (Nat. Ord. *Urticariaceæ*, *Cannabineæ*).

Lupulina.—Lupuline. The glandular powder separated from the strobiles of *H. lupus*. (U. S. P.) *Lupuline*, Fr.; *Hopfendrösen*, Ger.

Infusum Humuli.—Infusion of hops ($\frac{3}{4}$ ss—Oj). Dose, a teacupful or more. (Not official.)

Tinctura Humuli.—Tincture of hops (twenty parts to one hundred). Dose, $\frac{3}{4}$ ss— $\frac{3}{4}$ ij.

Oleoresina Lupulinæ.—Oleo-resin of lupuline. Dose, \mathfrak{m} v— $\mathfrak{3}$ ss or more.

Extractum Lupulinæ Fluidum.—Fluid extract of lupuline. Dose, $\mathfrak{3}$ ss— $\mathfrak{3}$ ij.

COMPOSITION.—Hops contain *lupuline* (described above), a tannic acid, an essential oil composed in part of *valerol*, *trimethylamine*, and a liquid volatile alkaloid, *lupuline* (?).

PHYSIOLOGICAL ACTIONS.—Hop is an aromatic stomachic tonic, and as such promotes the appetite and digestive power. It is slightly astringent also. The action of the heart is somewhat increased, the cutaneous circulation excited, and diaphoresis produced.

In a very slight degree, hop first causes cerebral excitement, followed by calm and a disposition to sleep. Experience has shown that it possesses some anaphrodisiac property, and lessens the functional activity of the testes and the apparatus of erection.

THERAPY.—As a *stomachic tonic* hop is quite as serviceable as many more rare and costly medicines. It is useful in *atonic dyspepsia*, simple *flatulent colic*, and *mild diarrhoeas*.

The power of a hop pillow to *quiet the mind* and to *induce sleep* seems to be well established, but its influence is, doubtless, largely due to imagination and the association of ideas. The tincture of lupuline and the oleo-resin are useful remedies in mild cases of *delirium tremens*. They serve a double purpose—as a stomachic tonic and cerebral sedative. A combination of fluid extract or tincture of lupuline and tincture of capsicum is probably the best *substitute for alcoholic stimulants*, when the habit of their use is to be discontinued. \mathfrak{R} Ext. lupulinæ fluid., tinct. capsici, $\mathfrak{a}\mathfrak{a}$ $\frac{3}{4}$ j. M. Sig.: *One or two teaspoonfuls as necessary*. The condition known as *horrors*, or the wakefulness and excitement which just precede the attack of *delirium tremens*, may often be quite removed by free use of this combination.

Nocturnal seminal losses may be reduced in frequency by the use of lupuline, of which the best preparation for this purpose is the oleo-resin. *Chordee* is said to be prevented by the use of lupuline, but the author has been quite disappointed in his attempts to relieve this state by this remedy.

A hop poultice or bag is a domestic remedy for *internal pains* and *inflammation*, especially of the abdominal organs. A quantity of hops is sewed into a muslin bag, dipped in hot water, and then laid over the affected region. It forms a light fomentation, which owes its virtues rather to the heat and moisture than to the anodyne qualities of the hops.

Lactucarium.—Lactucarium. The concrete milk-juice of *Lactuca virosa* Linné (Nat. Ord. *Compositae*). (U. S. P.) Dose, gr. v—3 j.

Extractum Lactucarii Fluidum.—Fluid extract of lactucarium. Dose, ʒ ss— $\frac{3}{4}$ ss, or more.

COMPOSITION.—Lactucarium contains several organic substances and eight to ten per cent of inorganic matter. It yields about fifty-eight per cent of *lactucerine* or *lactucone*, an inodorous, tasteless neutral substance, a crystallizable bitter principle, *lactucine*, and *lactucic acid*.

PHYSIOLOGICAL ACTION, AND THERAPY.—The soporific quality of lettuce is known to all who eat this vegetable. Notwithstanding this universal experience, careful experiments have shown that lactucarium possesses a very feeble hypnotic quality, if it be not entirely inert. It is only used as a substitute for opium and its alkaloids when these disagree. The sirup of lactucarium is prescribed to relieve cough, but it is better employed as a vehicle for more powerful agents of the class of expectorants.

Bromides.—**Ammonii Bromidum.** Bromide of ammonium. *Bromure d'ammonium*, Fr.; *Bromammonium*, Ger. Colorless, transparent, prismatic crystals, or a white, granular salt, becoming yellow on long exposure to air, odorless, having a pungent, saline taste, and a neutral reaction. Soluble in 1.5 part of water and in 150 parts of alcohol at 60° Fahr.; in 0.7 part of boiling water. Dose, gr. x—3 ss, or more, well diluted.

Calcii Bromidum.—Bromide of calcium. A white, granular salt, very deliquescent, odorless, having a pungent, saline, and bitter taste, and a neutral reaction. Soluble in 0.7 part of water and in 1 part of alcohol. Dose, ʒj—3 ij.

Camphora Monobromata.—(For description, see article CAMPHORA.)

Ethyl Bromide.—(For description, see article ÆTHER.)

Lithii Bromidum.—Bromide of lithium. A white, granular salt, very deliquescent, odorless, having a very sharp, somewhat bitter

taste, and a neutral reaction. Very soluble in water and in alcohol. Dose, gr. v—ʒij.

Potassii Bromidum.—Bromide of potassium. *Bromure de potassium*, Fr.; *Bromkalium*, Ger. Colorless, translucent, cubical crystals, permanent in dry air, odorless, having a pungent, saline taste, and a neutral reaction. Soluble in 1.6 part of water and in 200 parts of alcohol at 60° Fahr. Dose, ʒj—3 ij.

Sodii Bromidum.—Bromide of sodium. Small, colorless, or white monoclinic crystals, or a crystalline powder, permanent in dry air, odorless, saline taste and neutral reaction. Soluble in 12 parts of water and 13 parts of alcohol. Dose, ʒj—3 ij. (U. S. P.)

ANTAGONISTS AND INCOMPATIBLES.—Acids, acidulous and metallic salts are incompatible with bromides of ammonium and potassium, and nitrous ether with the former. The physiological actions of the bromides are antagonized by cold, digitalis, belladonna, ergot, and other agents which energize the vaso-motor nervous system.

SYNERGISTS.—Opium, chloral, and remedies belonging to the same group, promote the action of the bromides on the brain; and aconite, veratrum viride, gelsemium, etc., increase the depressing effect of the bromides on the circulatory system.

PHYSIOLOGICAL ACTIONS.—The taste of a bromide is bitter and saline. In a short time after it is swallowed, the characteristic taste returns to the mouth, owing to the outward diffusion of a portion of that administered. The tactile sense of the fauces, as also the muscular movements in the act of swallowing, are diminished by long-continued use of the bromides.

Sixty grains of the bromide of potassium or sodium, and a less quantity of the ammonium salt, will in some persons produce slight nausea and diarrhoea; in others, a sense of coolness in the epigastric region; but in many, provided the salt is properly diluted, no effect on the stomach. Gastric catarrh is undoubtedly one of the evil results which may follow the protracted administration of the bromides in considerable doses.

These are diffusible substances, and hence pass quickly into the blood. When large doses are administered, it is probable that no inconsiderable portion escapes absorption, for they can be detected in the intestinal mucus and in the fæces.

Very obvious effects on the action of the heart, on the respiration, and on the animal temperature, are produced by the bromides if administered in considerable quantity. These functions are depressed, but the depression is much less evident as to temperature; hence, in order to determine this result, most careful observations are necessary. The author has ascertained that two drachms of bromide of potassium will lower the temperature in a healthy adult from one fifth to one half a degree; the respirations from two to five, and the pulse from ten to