

On *post-mortem* examination there are usually a dark color of the face, congestion of the brain, cord, and their membranes, and congestion of the lungs. The right side of the heart contains a large quantity of dark blood, and the left side is empty.

Treatment.—Chloroform taken in a liquid state or by inhalations should in all cases be tried. A relaxation of the spasms will at least prevent or retard the occurrence of asphyxia. Infusion of tobacco is recommended by some. It may be advantageously combined with chloroform; that is, the tobacco-infusion can be swallowed, or given by enema, while anæsthesia is procured by inhalation of chloroform. Aconite has been used in some cases with benefit. Thoral employs preparations of antimony as an antidote; it is given in emetic doses. Boudecker experimented upon dogs with chlorine-water and tartar-emetic, giving them alternately. He claims to have saved the animals from the poisonous effects of strychnia by this treatment.

It will be well in most instances to commence treatment by an emetic, in order to get rid of the poison remaining in the stomach. The infusion of tobacco, or sulphate of zinc, will answer this purpose. If the patient cannot swallow the medicine, it can be given through the rectum.

CHAPTER XXI.

IRRITANT POISONS.

Cantharides.—Croton-oil.—Veratria.—Hellebore, etc.

A PECULIAR Spanish fly, called the *Cantharis vesicatoria*, has long been employed in medicine as a vesicant and as a stimulant to the genito-urinary apparatus. There are several other varieties of cantharides found in the southern parts of this country, which possess properties analogous to the Spanish fly; they are, however, rarely employed for medicinal purposes.

Large doses of cantharides produce tenesmus at the neck of the bladder, inability to pass water, intense pain and scalding with the few drops of urine which are squeezed through (*strangury*), great pain throughout the alimentary canal, and thirst, with profuse vomiting and purging. The vomited matters and the stools contain blood. The extremities are cold. There are great prostration, a rapid pulse, sighing respiration, and a fetid odor to the breath.

A *post-mortem* examination shows signs of inflammation in the stomach and intestinal canal.

Treatment.—When the stomach and bowels have been emptied of their contents by emetics, cathartics, or the natural efforts of the patient, ten to thirty drops of liquor potassa largely diluted may be given every hour (*Mulack*),

in conjunction with hot applications to the hypogastric regions. Small pieces of ice may be swallowed with benefit. Thale recommends animal charcoal as an antidote; a teaspoonful of this substance mixed with a little water may be given at a dose.

OIL OF SAVIN.

The tops and leaves of *Juniperus sabina*, or red cedar, furnish a volatile oil which possesses marked irritant properties. The oil is employed in medicine as a stimulant to the secretions, and as an emmenagogue. Its action on the uterus is denied by some authorities. It is commonly administered by quacks and others to produce abortion. These cases not infrequently terminate fatally.

A decoction and infusion of the tops and leaves are also used for a similar purpose.

An overdose produces strangury, sharp pains in the bowels, hot skin, rapid pulse, violent vomiting, and sometimes purging. The vomited matters are often of a green color. Great prostration comes on rapidly, and usually ends in death.

The *post-mortem* appearances are the same as those observed in poisoning by cantharides.

Treatment.—Warm fomentations over the epigastrium and hypodermic injections of morphia may be tried with benefit. The patient should be fed through the rectum if possible. Nothing but ice should be allowed in the stomach until the subsidence of the inflammation.

CROTON OIL.

Is a product of the seeds obtained from the *Croton tiglium*, a small tree of Hindostan. It is a drastic hydra-

gogue cathartic, acting efficiently in from a half to one hour after its administration. Applied externally it produces a pustular eruption. In large doses it excites inflammation of the cesophagus, stomach, and intestines, and gives rise to vomiting, purging, and rapid prostration.

Treatment.—Empty the stomach thoroughly, and treat the resulting inflammation in the usual manner. Stimulants diluted with iced milk should also be used, to sustain the strength of the patient.

COLCHICUM.

The tinctures and decoctions of this drug are not infrequently taken in poisonous doses by careless persons. Three drachms of the wine of the seeds have caused death. The poisonous effects are manifested by violent vomiting and purging, great pain, and collapse.

The treatment is the same as for the preceding varieties.

VERATRIA.

This alkaloid is obtained from the seeds of *Veratrum sabadilla* and other plants. It is found in the shops, in the form of a grayish-white powder. The taste is bitter. It gives a red color with sulphuric acid, and a yellow color with nitric acid.

Veratria is a powerful poison in doses of four or five grains. Half a grain has proved fatal to a child.

The symptoms of poisoning are vomiting and purging, pain in the epigastrium, rapid respiration, small, quick pulse, and spasmodic movements of the muscles, resembling those which occur in tetanus.

The antidotes are vinegar, vegetable astringents, Lugol's solution, and stimulants.

Black and white hellebore, all the drastic cathartics, turpentine, etc., are irritant poisons in large doses. They present similar symptoms to those irritants previously mentioned, and require the same treatment.

CHAPTER XXII.

METALLIC POISONS.

ARSENIC.

EVERY preparation of arsenic acts as an irritant poison. Among the most common varieties are arsenious acid, arsenite of copper (Scheele's green); yellow sulphuret of arsenic (orpiment); and red arsenic, or realgar. Arsenious acid and Scheele's green are most frequently employed for purposes of murder or suicide.

Metallic arsenic is made by heating an oxide of arsenic with charcoal.

Arsenious acid (AsO_3) is obtained during the sublimation of the arseniuret of cobalt and iron. It usually exists in the shops as a fine white powder. If the sublimation has been slow, it will take the form of brilliant octahedral crystals (*Taylor*). It combines with many of the alkalies, as soda, ammonia, or potash, to form salts. The well-known Fowler's solution is a liquid preparation of the arsenite of potash.

Scheele's green is applied to a variety of purposes. It is the principal ingredient in the coloring matter of green wall-paper, artificial flowers, candy and paper boxes, etc. Nearly all the bright-green colors of household furniture, paper, and "knick-knacks," are made by this poison. This