

3. There is no symptom more alarming than the convulsion. Beginning with a distortion of countenance, due to clonic muscular contraction of the face muscles, which rapidly invades the entire voluntary system, and is as promptly followed by unconsciousness, the victim mostly falls heavily to the floor, although he is sometimes warned by an aura which permits him to seek a place of safety. Serious injury and even death may be caused by the fall itself.

In treatment, the first steps are measures to prevent the biting of the tongue, which is unfortunately, often too early a result to be averted, being caused by a primary and sudden closure of the jaw muscles. A piece of wood, a clothes-pin, or a cork secured so as to prevent its being swallowed, or a towel thrust into the mouth will answer the purpose. Then the patient's clothing is to be loosened, as in fainting, and he is to be restrained from such motion as may result in further injuring himself.

If the convulsion be due to epilepsy, nothing further can be done; if due to reflex irritation, as occurs in teething in children, or are overloaded stomach, the gums should be lanced in the former instance, and vomiting secured in the latter. The difficulty is to introduce the emetic; but irritation of the fauces by the fingers or a feather will frequently have the desired effect. Should the fit continue, a movement of the bowels should be brought about by an enema. In all cases in children, immediately after the cessation of the fit, if the bowels have not been moved during it, an aperient should be given to remove irritating matter in the alimentary canal, since this may avert a recurrence. Among such irritating matter are to be included the various intestinal worms.

If the convulsions are due to Bright's disease, a more active treatment is necessary. If it be perpetual nephritis, in addition to the measures taken to protect the tongue, the first step is undoubtedly to bleed from the arm, and, if the convulsions continue, chloroform should be inhaled. The same effect is often as well obtained by chloral.

Chloral is best administered by enema, and 60 grains may thus be given to an adult. If the convulsion is due to Bright's disease not occurring in pregnancy, a $\frac{1}{2}$ of a grain of pilocarpine may be injected subcutaneously, and repeated in a few minutes if not followed by sweating; or, if this be not at hand, a hot air bath or a steam bath.

Hysterical convulsion requires a different treatment. It is always less sudden than the epileptiform convulsion, is apt to be preceded by some premonitory symptom, such as a sense of suffocation or extreme nervousness, but there is never any danger of the patient biting the tongue. Opisthotonos is usually the characteristic form of convulsion. As regards treatment, electricity in the

shape of the direct galvanic current, occasionally interrupted, or of faradization, is, however, often felt, and will generally cause the convulsion to cease. Douching the patient with cold water will likewise be usually successful.

[Inhalations of nitrite of amyl will usually arrest convulsions, no matter what be their nature, though its use in puerperal convulsions after delivery may prove dangerous by producing flooding.—Ed.]

4. Pulmonary hæmorrhages are in the main confined to tubercular consumption, occur in two different stages of the disease, and have a very different significance. They may occur early, when the blood-vessels in the neighbourhood of a tubercular infiltration, weakened by a tubercular deposit in their walls, yield to a distention from collateral hyperæmia. In such a case the hæmorrhage is rarely large, and, so far from being harmful, is often a relief to a congestion producing dyspnoea and oppression. The greatest danger is the irritation and even inflammation which may be brought about by the presence of small coagula in the bronchioles and their insufflation into still pervious air vesicles. This danger escaped, the hæmorrhage is harmless.

The second form of hæmorrhage is much more serious. It occurs late in the disease, and is due to ulceration through the coats of a blood-vessel of considerable size, the vessel being either in the walls of a cavity or traversing it. Such a hæmorrhage is dangerous, and not infrequently fatal. Prompt measures are, therefore, to be taken to relieve it. The thorax should be kept raised, and absolute quiet should be observed. This is further secured by a full dose of an opiate, if it be well borne by the patient. Of internal remedies, the time-honored one of common salt is of uncertain value; but, in the absence of anything else, may be swallowed, in the dose of a teaspoonful, repeated in a few minutes if the hæmorrhage continues. Gallic acid, in 15-grain doses every ten or fifteen minutes, is a more rational measure, and should be substituted for the salt as soon as it can be obtained. Hypodermic injections of ergotin, in doses of 5 to 10 grains in water, may be given simultaneously, and should be repeated daily or twice daily where the tendency to hæmorrhage continues. Their object is to bring about contraction in the blood-vessels. Other astringents, such acetate of lead, in 3 grain doses, may be used under the same circumstances, as it would not be safe to use this drug in any quantity sufficient to bring about an immediate effect. The application of cold over the bleeding site is especially recommended by German clinicians, but one must be sure first of the situation, which is not easily ascertained. Sometimes the patient is able to indicate it quite precisely, at others not. Sometimes auscultation may discover subcrepita-