Clinical and other Notes.

THE TREATMENT OF SUSPENDED ANIMATION IN 1824.

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The evolution of the treatment of malaria by the "bark" and later by the alkaloid now so commonly known, the evolutionary stages, too, of the treatment of amoebic dysentery by the administration of ipecacuana, next by ipecacuana-sine-emetine, and to-day by emetine, are examples of interesting historical studies. None the less absorbing is a stage in the evolution of the first-aid treatment of the apparently drowned, and it was when perusing the pages of an old medical treatise that I chanced upon a description of the treatment of suspended animation.

To those of us whose duty it is to impart the principles of first-aid to others in places where every modern adjuvant is at hand, or in places where improvisation is of paramount importance, I thought this extract would be of equal interest. Our medical ancestors were of necessity compelled to improvise, but it will be seen that although the general principles adopted in those far-back days were good according to modern standards, the methods of application would be considered to-day as being somewhat primitive.


"The suspension of the vital powers, produced by immersion in water, called drowning, and that by strangulation and suffocation by noxious vapours and lightning, are very similar and require the same resuscitative means. As in poisons, what is necessary to be done must be done quickly and, on the first alarm the following articles should be got ready; warm blankets, flannels, a large furnace of warm water, heated bricks, a pair of bellows, warming-pan, sal-volatile, oyster pipes and an electrifying machine."

Here follows the method of transportation of the patient to the treatment room and, on arrival:

"The body being placed on warm blankets in a spacious room with a good fire and only five or six attendants, the first attempt should be to restore heat and circulation of the blood by friction with . . . and by placing bladders filled with warm water to the pit of the stomach and
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soles of the feet. Ether and other spirits, recommended by the Humane Society for external applications, are very hurtful, . . . the cold produced by evaporation counteracting the effects of the friction.

"The restoration of the functions of the lungs should be attempted by forcing air from a bellows through one nostril, the other and the mouth being kept closely shut, and an assistant should gently press down the ribs . . . to imitate natural respiration.

"The brain and heart should be stimulated by passing through them the galvanic fluid. For this purpose Doctor De Sanctis, an eminent physician of London, has lately invented a cheap galvanic apparatus which is accompanied by instructions to enable any person to use it 1 . . . this remedy is of such importance, that the apparatus should be kept in every parish."

"The bowels should be fomented and stimulated by throwing up of warm water with a handful of common salt dissolved in it, which may be done with a clyster pipe and a bladder. The injection of tobacco fumes up the fundament, recommended by the Humane Society . . . is likely to be more hurtful than otherwise. A slight agitation of the body every six to ten minutes will act as a great auxiliary to those means.

"Bleeding . . . should be employed only when deemed necessary by a medical practitioner. On the appearance of any symptom of returning life a teaspoon of sal-volatile or brandy should be got into the stomach and . . . repeated. The matter of heat being the stimulus . . . warm water heated to 100°F. may also be injected into stomach and rectum. If, after vigorous employment of these means for two hours . . . any brewhouse or warm bath can be obtained, the body . . . should remain in the bath or surrounded by warm grains or ashes for three or four hours.

"The apparatus for inflating and galvanizing the body invented by Dr. De Sanctis and the drag recommended by the Humane Society should be more generally kept at public or farmhouses, near to rivers and canals . . ."

The author then expresses his indebtedness to Dr. De Sanctis for the following remarks:

"In every case of suspended animation, endeavour to restore the functions of the lungs and heart. To accomplish this, extend the patient's body either on the moveable back of the reanimation chair and fix it there with bandages, or on a convenient table. . . . The head and shoulders should be somewhat raised. . . . Introduce the inflexible metallic tube 1 into the stomach and fix it properly by means of the elastic regulator. Pass the silver tube into the larynx 1 and close the mouth perfectly with the coated plate and appendages. Close the nostrils with the forceps and the ears with cotton. Adjust the box bellows on the tube placed in the larynx and alternately force air into and withdraw it from the lungs; the latter operation may be effected by pressure on the chest and upper part of the
abdomen. While employed in these operations an assistant should be preparing the Pensile Galvanic Pile."

This galvanic pile consists of 100 metal plates 1\(\text{\textfrac{1}{2}}\) in. in diameter and \(\text{\textfrac{1}{4}}\) in. in thickness which, when threaded on a glass rod, are dipped into diluted nitric acid. After drying, the strength of the pile is tested with the hands moistened with the acid solution. The plates, acid, stomach and laryngeal tubes, etc., can all be packed into one case for portability.

The instructions are then continued:—

"Having attached the galvanic pile to the top of the chair, one of the wires is to be applied to the tube passing down the gullet, whilst the other is to be successively made to touch different parts of the external surface of the body, particularly about the regions of the heart, the diaphragm and the stomach during the inflation of the lungs; then of the neck, describing the course of the par vagum or eighth pair of nerves (the old nomenclature) along the course of the spine, etc.

"Let the globe filled with ether or any other stimulating fluid that may be thought proper, be fixed to the tube in the gullet and be warmed by means of the spirit lamp \(^1\) which may be lighted by the ignitor in the chest, which also contains lancets, ribands, etc. As soon as natural respiration is observed to take place, remove the coated plates, regulator, tubes, etc., but continue to apply galvanism and warmth aided by gentle frictions until the pulse at the wrist shall have become of sufficient strength.

The means recommended for the recovery of drowned people are equally applicable to a number of cases such as convulsive fits, suffocation, strangling, intense cold, blows, falls, etc. Through their being neglected from the suspicion that the person is really dead, there is little doubt that the principles of life have been revived by the heat and pure air of the earth after interment."

To rid the lungs of any excess of water, he advises that "the body should be carried with the head lowermost so that, aided by the agitation caused by carriage, the gravitation of water from the lungs is permitted."

This position must not be maintained too long, it is said, for fear of causing congestion in the blood-vessels in the brain.

Regarding the pharmaceutical value of the enemata of tobacco smoke there must have been great controversy, for in Buchan’s treatise dated 1805 \(^2\) this remedy is recommended definitely, for therein will be found these paragraphs:

"To stimulate the intestines, the fume of tobacco may be thrown up in the form of a clyster. There are various pieces of apparatus contrived for the purpose but where these cannot be obtained the business may be done by a common tobacco pipe. The bowl of the pipe must be filled with tobacco and after a small tube has been introduced into the fundament, the smoke may be forced up by blowing through a piece of paper full of holes wrapped round the mouth (bowl) of the pipe, or by blowing through an empty pipe, the mouth (bowl) of which is applied close to that of the other.
But, as it ought to be thrown well up, a pretty large syringe will answer the purpose better."

It was fully realized that warmth was an important factor in restoration, for Buchan [2] quotes Doctor Tissot, who reported an instance of a girl, apparently dead from drowning, who was restored to life by laying her naked body upon hot ashes, covering her with others equally hot, putting a bonnet round her head and a stocking round her neck stuffed with ashes and heaping coverings over all.

After she had remained half-an-hour in this situation, her pulse returned, she recovered speech and cried out, "I freeze, I freeze." As a method of most unpleasant improvisation, the same Doctor Tissot reports an instance of a man who was restored to life after he had remained six hours under water, by the heat of a dung-hill. With this in mind it is not surprising to learn that sewn to the lining of the coat of a man who was liable to attacks of epilepsy followed by somnolence was a notice which read, "I
suffer from epilepsy—please leave me alone.” I feel sure that this ingenuity must have been the outcome of bitter experience.

It will be seen that the principles for restoration, i.e., warmth, artificial respiration and stimulation were the same as those carried out to-day, but the methods of applying those principles were of necessity more of an improvised nature and were undoubtedly more unpleasant to all concerned, for the reason that hot-water systems, rubber bottles, syringes, hypodermic tablets, electric batteries and such like were not invented.

The early beginnings also of a first-aid outfit are suggested and that such outfits should be placed in convenient situations where disasters from drowning are likely to occur is recommended.

Should any points be raised for criticism, they are firstly the difficulty and danger in unskilled hands of passing the inflexible metal tube into the larynx, and secondly, in view of recent accidents, there would be great hesitation in heating the bulb containing the ether with the open flame of the spirit lamp, the probable results of such a procedure being too horrible to contemplate.

The illustration, which is an enlarged copy, shows the forceps on the nose, the bulb attached to the stomach tube, the spirit lamp in the hands of an attendant, the box-bellows fitted to the laryngeal tube, the pensile galvanic pile suspended above the re-animation chair and the hands of the patient fixed by a bandage.

1 Indicates that the italics are by Lieutenant-Colonel Priest.

REFERENCES.


A CASE OF HYDROCELE TREATED BY INJECTION.

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The injection treatment of hydrocele, although a method of long standing, fell into disrepute for some time, owing to the highly irritant nature of the drugs injected.

Thus we find in the eleventh (1924) edition of a “Manual of Surgery” (Rose and Carless) that “Injection of the cavity after tapping was for long a favourite method, but is now seldom employed. Many different reagents were used, such as port wine, tincture of iodine . . . perhaps the best is the tincture of iodine, but that contained in the B.P. is not strong enough”!! In the “Index of Treatment” (Hutchinson and Sherren), 1931 edition, we still find tincture of iodine mentioned, though carbolic acid with glycerine is recommended instead. It is also suggested that the