

is sure soon to have well-marked rigors, with tremor, and the sensation of heat yields to a distressing chilliness. In the severest cases coma comes mercifully, and continues until death relieves the sufferer. When there is evidence of great general shock, it must be treated, as in ordinary traumatic injuries, by stimulants, quinine, nutrients, and warmth. If the clinical thermometer, placed beneath the tongue, indicates a temperature below the normal, it may not be enough to wrap the patient in blankets, which merely retard the escape of heat from the body, but warmth must be artificially imparted by contact with cans of hot water placed beneath the coverings.

The removal of the clothes of a badly-burned patient should be effected with the greatest care, cutting them off and removing them in portions, so as to avoid detaching the adherent cuticle. When blisters or bullæ exist, they should be merely punctured with the point of a needle, so as gradually to drain away the serum, always leaving the epidermis as the natural and unirritating protection for the burned surface.

After the first considerations of relieving pain and shock to the system, the local treatment of burned surfaces will require attention, and this must vary with the portion of the body injured, and also with the superficial extent and depth. Patients are always distressed by the vesicating influence of the air on even slightly-burned parts, and protection by dressings with lotions or unguents is essential. We are, in these wards, in the habit of applying, at first, mildly-astringent and antiseptic unguents for this purpose, such as the benzoated ointment of the oxide of zinc, or the carbolized ointment of the oxide, in the proportion of one part of carbolic acid to sixteen or twenty of the ointment. Such applications are soothing and disinfectant: and, if the surface is extensively blistered, with the epidermis broken, the comfort of the patient will be much increased by encasing the part in a layer of carded cotton, frequent disturbance of the dressing being carefully avoided.

In cases of extensive burn of the surface of the trunk and extremities, involving a very large area of skin, and where changes of the dressing would cause much suffering, I have directed that almost the entire body be simply wrapped in a linen sheet saturated with a slightly carbolized oil. For this purpose linseed oil, from its viscid character, is probably the best.

Most of the domestic remedies which are resorted to have some merit in at least protecting the parts from the air, but such popular applications as flour, molasses, starch, soap, and glue have the inconvenience of being dirty, and some of them incline to form crusty masses over the surface which are not easily removable. The familiar combination of linseed oil and lime-water—a soapy emulsion—has no real merit,

and has the disadvantage of becoming disgustingly offensive when combined with the discharges from burned surfaces. It is at all times exceedingly difficult to prevent fetid effluvia from the bodies of patients who are extensively burned; and such are the most offensive surgical cases we ever have in the wards. As ablutions and frequent changes of dressing are attended with suffering, the prevention of putridity is best effected by the use of carbolic acid, which has the property of being a local anæsthetic as well as an antiseptic.

The application of a paint of carbonate of lead and linseed oil, as practised by Professor Gross, is said to be very soothing, quickly relieving pain, and it has the merit of being readily attainable in places where severe burns are apt to occur. The originator of this treatment says that he has never seen evidence of its being followed by the specific toxic effects of lead, even where the dressing is extensively applied; but in individuals who are peculiarly susceptible to saturnine influence it might be dangerous. A recently-proposed remedy, which has remarkable virtues claimed for it, is the bicarbonate of sodium, in fine powder, dusted over the burned surface or applied as a saturated aqueous solution. It is said to relieve pain instantly, and that burns heal readily under the application. The watery solution of bicarbonate of sodium would have the serious objection of other wet dressings,—in chilling the patients when largely used,—and it must be remembered that during the existence of shock from burn, the temperature is often much below the normal, and that the restoration and maintenance of warmth should be a primary object. Dr. Ludlow, of this city, states that the application of the ordinary brown resin soap, spread on linen cloths, quickly relieves pain, and is a very satisfactory dressing.

When mortification of a part occurs from a deeply-penetrating burn it must be treated, as gangrene from other traumatic causes, with cataplasms and antiseptics, to facilitate separation of the dead from the living tissues, and to avoid fætor and septic infection of the patient's system.

There are some remarkable visceral complications of burns which you should watchfully and carefully anticipate, and, if possible, guard against. The statistics of death from burns show that associated intra-thoracic, intra-abdominal, and cerebral lesions are the causes of death in nearly one-half of the fatal cases. These affections are usually either congestion or inflammation, and are ordinarily associated with burns of the overlying integument. Generally tonic and stimulating treatment seems to be the most available in such complications.

There are other serious pathological associations of burns, to which I can at this moment make but passing reference. Intestinal ulcera-