TREATMENT OF SHOCK


A number of different conditions due to different sorts of trauma are comprised in the term 'shock,' and throughout the memorandum, now in its second edition, the indefinite connotation of the term is emphasized by the use of inverted commas.

Severe limb wounds and burns bulk large among causing the death mortality, lower than, for example, severe visceral injuries, they have provided the material for most of the investigations of the shock. Haemoglobinemia, due to loss of blood or plasma externally or into the traumatized area, is regarded as the most important etiological factor. Loss of blood, if amounting to 25 per cent. or more of the total blood volume, can produce signs of 'shock': low blood pressure; poor, rapid, pulse; pallor or cyanosis, and sweating; and vomiting. Similar symptoms may follow the loss of smaller quantities of blood in susceptible people, and if the blood loss is accompanied by pain or occurs when the subject is in an upright position, vaso-vagal collapse ensues. It is also to be noted that a low blood-pressure is not invariable, and the severity and nature of the injury may often be a better guide to the diagnosis of 'shock' and to the need for transfusion than the blood-pressure. Haemoglobin estimations in the early hours of 'shock' due to haemorrhage are of no value as an index of blood loss since the restitution of the blood volume by dilution with tissue fluid takes some hours.

In burns it is thought that the 'shock' is due to increased capillary permeability in and around the burn leading to a definite concretion of plasma and to haemoconcentration; haemoglobin estimations are therefore of value in assessing the degree of 'shock' in burns. In injuries involving the crushing of large amounts of muscle, 'shock' may follow the release into the circulation of the diffusible constituents of necrotic muscle, and in such cases there is frequently renal failure. Other complications of wounding that may lead to symptoms of 'shock' include fat embolism, inhalation of toxic gases, infection, anaesthesia, and dehydration.

In the treatment of the 'shocked' patient there are three main aims: arrest of haemorrhage, restoration of blood volume, and removal of damaged tissue. The operation should be carried out as soon as possible and resuscitative measures may often be best carried out in the operating theatre immediately prior to surgical treatment. Haemorrhage is most satisfactorily controlled by local pressure dressings; the injured part should be well immobilized. Morphine, ½ grain intravenously, may be given to relieve apprehension. Copious drinks should be given. Transfusion is the only measure that will save life in the severely 'shocked' patient. If the systolic blood pressure is below 90 and the pulse is rapid, transfusion should not be delayed. In other cases the decision may be more difficult, but it is better to give than to withhold transfusion, and the presence of a large mass of injured tissue in a limb, even though the blood pressure is normal, is often a definite indication for transfusion. Blood is the transfusion fluid of choice when the 'shock' is due to blood loss; plasma or serum should be used for patients with haemoconcentration.

In both limb injuries and burns a transfusion may be enough to bring the patient out of 'shock' and yet leave him very liable to relapse later, e.g. at operation. Adequate amounts of fluid should therefore be given.

The transfusion of too much fluid, however, may lead to pulmonary oedema, as may transfusion in patients with trauma to the lung—thermal or toxic. Oxygen is only indicated in patients with pulmonary oedema or some interference with respiratory oxygen intake.

R. E. O. W.

HEALTH RESEARCH IN INDUSTRY

Proceedings of a Conference on Industrial Health Research held at the London School of Hygiene on September 28th, 1944.

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It cannot be denied that between the wars industrial health research failed to attract the interest it deserved. It was neglected by workers and business men, and by the State. Oxygen is only indicated in patients with pulmonary oedema or some interference with respiratory oxygen intake.

R. E. O. W.

REVIEWS