

preferably early in the so-called "latent period" of four to six hours; placing of the patient in the horizontal rather than the Trendelenburg position, except for the use of Trendelenburg position for the primary shock occurring immediately after trauma; exposure of the patient to room temperatures rather than covering him with heaters or blankets, thereby helping to combat the ill effects of anoxia by lowering of the demands of the body for oxygen; adequate sedation, but not enough to cause any respiratory depression; the use of 100 per cent oxygen, preferably with positive-pressure apparatus; fluid replacement, consisting of rational doses of plasma and crystalloid solutions; and judicious use of the whole extract of adrenal cortical hormone. It is contended that positive-pressure inhalation is more satisfactory for the relief of pulmonary edema than are hypertonic solutions of albumin. Certain "don'ts" of shock therapy are advanced: refraining from the use of digitalis, epinephrine, caffeine or strychnine; withholding of chemotherapeutic agents until the renal output is such that the excretory products can be handled by the kidneys.

Most of the deaths following inhalational gas poisoning are due to pulmonary edema and cardiovascular failure. The treatment "should consist of two main parts, the first directed toward continuous bronchial relaxation, and the second toward the application of positive pressure with mixtures of oxygen or helium and oxygen to the inner surface of the lung." Relief of bronchospasm may be obtained by rectal instillation of aminophyllin two or three times daily, continuing the treatment for one to three weeks, or by the use of nebulized sprays of neosynephrine or epinephrine directed into the oronasal passages. "Proper humidification of the room air and the inhaled

gases should be observed." Iodides may be used in the later stages to relieve the dry, nonproductive cough.

Positive-pressure inhalation therapy is an excellent means of combating pulmonary edema, and may cause it to disappear and remain absent while pressure is applied or until the cause has been removed. If the dyspnea is caused mainly by anoxia, the gas therapy should consist of oxygen in concentrations of 95 per cent or more; if it be due largely to respiratory obstruction, the gas therapy should consist of helium-oxygen mixtures, e.g. 80 per cent helium and 20 per cent oxygen. Positive pressure can be applied by means of the Barach mask or helium-oxygen rebreathing hood apparatus, with a pressure of 2 to 6 cm. of water usually sufficient. The authors do not advocate tracheotomy for tracheal edema unless provision is made for application of positive pressure through the cannula.

C. S. H.

MAHORNER, HOWARD: *Control of Pain in Posttraumatic and Other Vascular Disturbances*. Ann. Surg. 119: 3, 432 (March) 1944.

Dr. Mahorner states: ". . . it is surprising what may happen with regard to certain pains when the sympathetic nerves are interrupted." Pain may be the predominant symptom in various types of vascular disease. It has not been determined whether "pain or vasospasm is antecedent or whether they are concomitant and not cause and effect." The vascular changes may be acute or chronic, with vasodilatation or vasoconstriction, or both; and they may be accompanied by other objective changes, such as edema, coldness and clamminess of an extremity, limitation of motion of a joint, paresis of a nerve, or pain in the distribution of a nerve, as in posttraumatic states.

Patients with such posttraumatic

pain may usually be given relief by block of the affected sympathetic pathways or by surgical section of these nerves. The author cites one case of early Volkmann's ischemic contracture in which repeated blocks of the dorso-cervical sympathetics relieved all pain and allowed a high degree of return of function of the affected arm; another case in which repeated blocks in the cervicodorsal region relieved nearly all pain in fingers affected by the post-traumatic syndrome; and a third case in which section of the dorsal sympathetic chain relieved causalgia of a painful arm. He favors either repeated sympathetic blocks or surgical section of the sympathetic pathways, stating that alcohol block is less efficient, with less marked results than those after novocaine injection or surgical section. He states that sympathectomy is as safe as appendectomy, with as short a period of recovery.

Sympathectomy is usually not indicated if repeated injections are very helpful, or never if nerve block has not temporarily relieved or abolished the pain. In Dr. Mahorner's experience, sympathectomy for the arm in post-traumatic syndrome is followed by a persistently warm and dry extremity, but not so in Raynaud's disease; this he advances as an argument against considering the latter as caused by the sympathetics. Blocking or section of the normal sympathetic pathways may cause temporary vasodilatation in Raynaud's disease, but the return of pain and vasoconstriction while the sudomotor apparatus is still paralyzed speaks for a "local" cause of the disease.

Lumbar gangliectomy will usually relieve the "night-pains" of Buerger's disease and allow an appreciable increase in the walking distance. The result is better in the early cases than in the later cases. It is the author's impression that this disease runs a self-

limited course, and that adequate treatment may tide the patient over until the process stops or is advancing only very slowly. The use of stilbesterol in women may retard the disease.

The use of the thermocouple is advised, as against use of the oscillogram. The oscillogram is not considered accurate enough to measure the small changes of temperature after sympathectomy for Buerger's disease. Small rises of temperature after nerve block do not mean necessarily that sympathectomy will fail; appreciable temperature rises have been observed after sympathectomy, compared to insignificant rises after block in the same patients.

The operability of patients with Buerger's disease depends upon the age and clinical condition of the patient. Operation nearly always seems advised in the young person. Patients under fifty years of age will usually deserve operation clinically; those "between fifty and sixty years frequently deserve operation and those over sixty seldom deserve major surgery for this condition." Young men usually exhibit an acutely progressive course, with abatement later in life; the onset of the disease in older men usually exhibits a mild course.

C. S. H.

EVE, FRANK C.: *Resuscitation of the Drowned Today*. J. A. M. A. 124: 964-967 (Apr. 1) 1944.

The author briefly reviews the principles of the Schafer, Silvester, and Silvester-Nielsen method of resuscitation. He points out that the Royal Navy has had very little success with the Schafer method even in the hand of trained personnel. The drowned patient is suffering primarily from anoxia of the vital centers of the brain. Therefore it is necessary that some means is provided to keep circulation going as well as to maintain artificial