

was irregular. The presence of sub-normal hepatic function as demonstrated by the hippuric acid excretion test was a certain indicator that a post-operative protein decline would occur. Impairment of liver function was observed in 48 patients in this series, and a substantial diminution in the plasma protein concentration occurred in each case. Inasmuch as liver physiology is known to be disturbed frequently in certain surgical conditions of an extrahepatic nature, it is essential that liver function tests be performed routinely in these cases. Included in this category are patients with biliary disease, hyperthyroidism, severe gastrointestinal disease associated with malnutrition, severe anemia, and carcinoma. The results of these tests should act as a guide for therapy.

"The treatment of plasma protein depletion depends on the extent and duration, the amount of available protein reserves, and the adequacy of liver function. Since certain operations are known to be almost constantly associated with marked protein loss, the estimated loss should be replaced during the operation by blood or plasma transfusions. In patients with normal liver function and adequate protein reserves, this substitution will be the only treatment necessary and operation need not be delayed. If the protein reserves are thought to be exhausted postponement of the operation is indicated until the reserves can be restored. Dietary therapy is particularly valuable in these patients and should consist of a high protein diet which contains ample amounts of food with high contents of certain key amino-acids. If this diet cannot be administered amino-acids may be fed with satisfactory results. In the group of patients with liver damage . . . therapy should be directed to a restoration of normal hepatic function. It has been shown that the lipid content of the liver is an index of the ability of this organ to function ade-

quately. A high lipid content is deleterious. Furthermore, there is evidence that proteins, and more particularly certain amino-acids such as methionine and cystine, have a great lipotropic effect; that is, they mobilize liver lipid and make it easily available for disposition. Therefore, in order to restore liver function to normal, ample amounts of selected proteins must be given along with sufficient carbohydrate to supply energy requirements. Plasma is a readily available and potent source of the necessary proteins and often proves efficacious when dietary therapy fails. A study of the cases included in this series reveals that a proper therapeutic regimen is often neglected, and patients are operated upon before they are adequately prepared. We feel, that with proper preparation in the preoperative period, the extensive decline in the plasma proteins which were exhibited by these cases could be prevented frequently. Routine determinations of liver function should be made on all patients about to undergo major surgical procedures, and when possible, operation should be delayed until restoration of adequate liver function is accomplished. Careful supervision of the diet and the more frequent use of plasma transfusions for their nutritional effect would enable most patients to avoid the threatened hypoproteinemia associated with the operations under discussion. Recently, by applying the therapy outlined above, we have been able to prevent, or greatly minimize, these declines in plasma protein concentration." 35 references.

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MARSTON, A. D.: *Basal Narcotics in War Surgery*. M. Press 208: 392-395 (Dec. 16) 1942.

"In the interval between the first and second world wars, basal narcotics were introduced and their technique developed, while during the last three

years these have been used more frequently in war surgery as their advantages have been observed. . . . Induction of anaesthesia is achieved with a minimum of psychic trauma. . . . There is an absence of struggling, with its attendant strain on the respiratory and circulatory systems, and endocrine function is but little disturbed. Nitrous oxide and oxygen often prove sufficient to complete the balance of anaesthesia, and this is indeed an advantage since research and clinical experience have shown this combination to be the least harmful of anaesthetic agents. This, however, is only true if nitrous oxide is given with enough oxygen to supply the metabolic needs of the body, which is easily possible in conjunction with basal narcosis. . . . Another advantage is post-operative quiet. . . . Use of basal narcotics in war surgery [may be classified into] three groups . . . : (1) Casualties requiring immediate operation; (2) Casualties operated upon after an interval of time; and (3) Patients who are not casualties but who require operations under similar conditions to civilian surgical practice. . . .

"Basal narcotics are numerous and may be divided into three groups: (1) Avertin; (2) Paraldehyde; (3) The barbituric derivatives. . . . The basal narcotics may be administered in one of three ways: (1) By the mouth; (2) By the rectum; (3) Intravenously. The route by which each drug may be given has a considerable influence upon its choice. With such a wealth of narcotics available, each with special merits, it is a mistake to use any particular agent as a routine. Each case should be considered individually and the most suitable choice made. . . . The effects of shock are increased in deep basal narcosis, and recovery may be retarded. This is often due to depression of the respiratory centre, and if pulmonary ventilation is inadequate, sequelae such as massive collapse or

hypostatic congestion may occur. Careful nursing is required so that any symptoms of respiratory failure may be dealt with promptly. If cyanosis should occur in the presence of a free airway, a mixture of carbon-dioxide 7 per cent and oxygen 93 per cent should be administered. The antidotes to avertin are ephedrine and colonic irrigation with hypertonic sodium thio-sulphate solution. Picrotoxin may be used in the case of paraldehyde or the barbiturates, but the analeptic solutions of camphor, known as nikethamide, coramine nikamide, anaecardone and corvotone, are more generally used. The nikethamide solution should be given in large doses (coramine 5-10 c.c.) intravenously. Repeated lumbar puncture may also be resorted to in the case of barbituric derivatives." 7 references.

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ORGANE, GEOFFREY: *Anaesthesia in Air-raid Casualties*. M. Press 208: 397-399 (Dec. 16) 1942.

"The problem of anaesthesia for air-raid casualties differs in a number of important ways from that of battle casualties. . . . Air-raid casualties . . . [include] men and women, very old and very young, anaemic, bronchitic, arteriosclerotic, under-nourished; often cold and very frightened. Their injuries are often multiple, with a high proportion of compound fractures of the limbs and of face or head wounds. In general, however, there is a shorter time interval before they are brought up, and it is found that only one in ten needs any form of resuscitative treatment other than warmth and rest. It is necessary to form an estimate of the patient's condition before deciding on operation and on the type of anaesthesia to be employed. His general appearance is apt to be deceptive; he will usually be covered in dust; he may be pale and sweating from fright,