

ABSTRACTS

Editorial Comment: A fixed style of presentation for this department of ANESTHESIOLOGY has purposely not been defined. It is the wish of the Editorial Board to provide our readers with the type of abstract they desire. Correspondence is invited offering suggestions in regard to the length of abstracts, character of them, and source of them. The Board will appreciate the cooperation of the membership of the Society in submitting abstracts of outstanding articles to be considered for publication.

FREDERICKS, LILLIAN E.: *Prevention of Shock in Spinal Anesthesia*. Am. J. Surg. 56: 438-444 (May) 1942.

"Most authors now agree that spinal anesthesia, if properly used, is the nearest to an ideal anesthetic. . . . The causes of mortality in spinal anesthesia can be divided into two groups: Those that are due to allergy to the drug itself and those due to circulatory or respiratory failure. The former group is very rare and almost unavoidable except by skin testing. The latter group is avoidable and can be effectively dealt with by a competent anesthetist. Most workers agree that circulatory failure or shock is the result of an uncompensated disparity between the blood and the volume capacity of the vascular system. . . . Normally, there are certain compensatory mechanisms that tend to restore the loss of blood volume by discharge of blood from reservoirs like the spleen and liver or absorption of fluid from other sources. Other mechanisms tend to decrease the volume capacity of the vascular bed by constricting various parts. . . . As long as these compensatory mechanisms are active and compensation sufficient, there will be no great fall in blood pressure. But when compensation fails, the blood pressure falls rapidly and progressively. Moon says that this is not a sign of the onset of shock but of a departed opportunity and that treatment in order to be effective must be instituted before the development of circulatory failure. In

other words the treatment of shock is its prevention. . . .

"A fall in blood pressure under spinal anesthesia occurs in a very large percentage of cases, one can say in almost every case. The extent of the fall varies with the individual, with the general condition of the patient and, to a certain degree, with the extent of the anesthesia. . . . There are certain precautions to be taken before the institution . . . [of] spinal anesthesia. The selection of patients is a very important point. Many of the earlier mortality statistics are high because spinal anesthesia was administered to moribund patients, to patients already in shock, and to others who could never have survived any other kind of anesthesia. . . . Proper preparation of the patient and adequate premedication are of great importance. The administration of sedatives the night before and on the morning of the operation and the reassurance of the patient with a few kind words greatly aid in the smoothness of the procedure. The routine use of ephedrine preoperatively in order to prevent the fall of blood pressure is not universally accepted. . . . However, most anesthetists use it either fifteen to twenty minutes before or right after the injection of the anesthetic, apparently to advantage. Therefore, the decision has to be left to the judgment of the anesthetist. . . . It is important that the patient is under proper sedation during the time of operation. Lemmon advises that the

patient should have so much morphine and scopolamine before and during the operation that he will be semiconscious and fall asleep while on the table. Other authors do not approve of the extensive use of morphine during spinal anesthesia. The patient should be in Trendelenburg position during the operation. This is necessary to prevent a fatal cerebral and cardiac anemia and to enable the cardiovascular system to function properly with the aid of gravity. There are no dangers of upward extension of the anesthesia to higher and more dangerous levels when the most frequently used and safest anesthetic, namely, procain hydrochloride (novocain, neocain), is used. . . .

"The use of oxygen during spinal anesthesia has a dual purpose. It relieves the nausea that is sometimes experienced by the patient and it increases the amount of oxygen carried in the blood and delivered to the tissues during the abnormally slow passage of the blood, and thereby breaks the vicious circle that is induced by tissue anoxia during spinal anesthesia. Lemmon gives a continuous venoclysis of 10 per cent glucose to support the patient during the operation. What has been said about the use of ephedrine preoperatively also holds true for the administration during the anesthesia excepting that it seems to be of no value in cases with great fall in blood pressure and shock because of its slow action, as it does not start until about fifteen minutes after injection. . . . Last but not least the care for the comfort and psychic state of the patient is essential. . . . Occasionally, the fear and nervousness of the patient can lead to grave complications and this is one factor that usually can be prevented. During the transportation of the patient back to his room sudden changes in position should be avoided. . . . The continuation of the Trendelenburg position accomplished by elevating the

foot of the bed a few inches is very valuable in the prevention of the headaches that sometimes occur after spinal anesthesia. Intravenous infusion of normal saline has the same advantages as after general anesthesia. Lemmon describes a technic for continuous spinal anesthesia, in which the spinal needle is not withdrawn after the injection of novocain so that subsequent doses may be introduced as needed. . . . The continuous method enables us to eliminate several of the disadvantages of spinal anesthesia such as the administration of the entire calculated dose at one time and the limitation of the operative time. . . . Altogether the use of the continuous method seems to have many advantages over the 'one shot' method and seems to aid considerably in the safety of production of the anesthesia as well." 45 references.

J. C. M. C.

CROWLEY, R. T.: *Reflex Changes in Respiration Induced by Distention of the Small Intestine*. Arch. Surg. 44: 707-714 (Apr.) 1942.

"The importance of distention in the various portions of the gastrointestinal tract has been frequently stressed in experimental and clinical literature. Such interest has arisen largely from repeated demonstrations that the distention inevitably appearing on intestinal obstruction is the factor chiefly responsible for the grave physiologic disturbances associated with that condition. Whether experimentally produced or resulting from actual pathologic conditions, excessive intraluminal pressure in the small intestine has been shown to produce a variety of local and general effects. Among the changes induced locally in the distended bowel segment are alterations in the motility, the circulation, the absorption and the secretion. Changes of a more general character occurring in the entire volume of cir-