
"In the last several years the proportion of our abdominal operations done under spinal anesthesia has gradually increased until now it is a rare case in which other forms of anesthesia are employed. This change has been due to several factors. The first of these is the advent of the drugs pontocaine and nupercaine, which produce longer anesthesia with less depression of circulation and respiration than do procaine ('novocain') and metycaine. Second is the gradual development and putting to use of the methods of management of patients under spinal anesthesia described . . . by Dr. Sise. By these means spinal anesthesia has been made much safer. In the third place there has been the increasing realization of the advantages of spinal anesthesia. . . . Furthermore, improvement in preliminary narcosis . . . has abolished the day when the patient could truthfully say that he was wide awake and knew everything that was going on, and has made spinal anesthesia much more attractive to him. As in many other branches of medicine, indications and contraindications rarely are absolute in anesthesia. They must be regarded as merely relative, and final decision must be based on the weighing of all factors involved. It must be remembered that low spinal anesthesia is far safer than high spinal anesthesia, and consequently factors which would contraindicate high anesthesia may not contraindicate low spinal anesthesia.

"Contraindications.—Disease of the central nervous system must be considered as a contraindication, partly because resistance to it may be diminished by the local anesthetic, but more because any new symptom or any increase in severity of the disease is likely to be attributed by the patient to the anesthesia. For similar reasons one may hesitate to use spinal anesthesia in a patient who has been led to fear postanesthetic sequela. . . . Severe hemorrhage or a marked degree of anemia is a contraindication to spinal anesthesia. . . . Shock of severe degree also contraindicates spinal anesthesia, unless it is early and is thought to be induced by a reflex which will be broken by the spinal anesthesia. . . . Cardiac decompensation may in many cases be a contraindication, because high spinal anesthesia embarrasses cardiac action, as does also the Trendelenburg position, which is often used. . . . Patients with coronary disease present rather serious risks, because a drop in blood pressure under spinal anesthesia may change the coronary circulation from barely sufficient to decidedly insufficient. . . . Contrary to common practice, the lack of an anesthetist is a distinct contraindication to spinal anesthesia. . . .

"Indications.—Again contrary to common practice, we have used spinal anesthesia in children, when occasion has arisen, and do not find it to be contraindicated. . . . Spinal anesthesia is particularly indicated in the presence of disease of the respiratory tract, because it causes no further irritation to the respiratory epithelium and does not alter the proportions of oxygen and of carbon dioxide in the inhaled atmosphere. If absorption of oxygen into the blood is insufficient, due either to the pulmonary disease or to the effect of hypnottes or high spinal anesthesia, additional oxygen may be given either by pharyngeal insufflation or by inhalation from the mask of a gas machine. Another special indication is the presence of disease of the liver or of the kidneys. . . . Metabolic diseases, such as diabetes, constitute an indication for spinal anesthesia because it causes less disturbance of the level of blood sugar,
the reaction of body fluids, and other metabolic processes than do the more powerful general anesthetics. The most frequent indication for spinal anesthesia is the need for relaxation in operation in the abdomen and on the perineum and lower extremities. . . . In patients who present serious risk, we formerly considered spinal anesthesia with procaine ('novocain') or with metynaine to be contraindicated; but increasing experience with the newer drugs, pontocaine and nupercaine, had led us to revise this view until now we use it for practically all abdominal operations.''

J. C. M. C.

RABINOVICH, A. A., Surgical Department of Medical Institute, Vinnitsky's, Moscow (Director of Clinic. Professor N. N. Boliarskiy): Spinal Anesthesia During 20 Years. Khirurgiya (Surgery) No. 6, 1939, pp. 35-36.

First publications in Russia about spinal anesthesia were begun in 1900 by Dr. Zeldovich (Leningrad), but until recently spinal anesthesia did not win wide popularity and many hospitals never employ it at all.

Contraindications are: (1) Traumatic shock, (2) tuberculosis of the spine, (3) organic pathology of the central nervous system, (4) low resistance of the patient, (5) generalized peritonitis, (6) formation of septic lesions.

The technique of lumbar puncture is very simple, but requires particular study and experience.

There are many anesthetic agents used for spinal anesthesia. In this particular report of 1836 patients, the author emphasized using exclusively tropocaine Merck (18 years) and novocaine and stovaine (2 years).

The method of preparing the solutions is: Just before the lumbar puncture is done, pour 2 cc. of distilled water into a small container and boil over an open flame; then dissolve 0.08 Gm. tropocaine or stovaine or 0.1 Gm. novocaine. The solution is then ready for injection.

It was found that the most effective and least toxic was tropocaine. Novocaine is not toxic but is short lasting. Stovaine is much more toxic than both agents mentioned above, but its action is prolonged.

Some authors in previous reports expressed the opinion that preparation of the skin with iodine is the cause of the headaches and many other complications; but in this report of observation over a period of 20 years of cases with tropocaine anesthesia with or without iodine, no complications were found. Stovaine injections gave postoperative headaches, nausea and vomiting, and it was observed that vomiting occurred on the operating table, nausea in the first postoperative day, and headache on the second and in some instances on the third postoperative day. There were no other complications after spinal anesthesia, as well as no deaths reported in twenty years. The study of the blood pressure showed no alarming fall during and after injection, but some elevation in blood pressure, 10-15 points, on the first and second postoperative days. Kidney function was not disturbed.

(Prof. Boliarskiy)

V. K.


'Total spinal anesthesia can be produced in several ways; namely: (1) By increasing the dosage of the drug. . . . (2) By increasing the volume of the solution injected. . . . (3) By injecting the drug at a high level. . . . (4) By spinal decompression and barbotage. . . . (5) By forcible injection. . . . (6) By cephalic gravitation of hypotonic hyper-baric solutions. . . . The pres-