

Nitrous Oxid-Oxygen Analgesia in Combination with Local Anesthesia in Cesarean Section Operations*

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IN DISCUSSING this subject, which was suggested to me by your President, Dr. Isabella C. Herb, I am uncertain as to how generally local anesthesia is combined with gas-oxygen in practice. I trust that this will not be an old story to the majority of you. A fact that, however, encourages me in presenting this matter is that in seeing Cesarean sections done in several of our Eastern centers, this combined technic of anesthesia was not used.

Selection of the Anesthetic

IN CHOOSING an anesthetic for a Cesarean operation, we have the following factors to deal with:—

1. A pregnant woman who can tolerate an unusual amount of anesthesia.

2. An unborn child whose ability to promptly begin breathing is modified by a narcotic administered to the mother.

3. We have to face a possible post-partum hemorrhage. This latter consideration is important, particularly when today we are doing Cesarean sections, not only in beginning labor with a slight prospect of post-partum hemorrhage, but also prior to labor with a marked tendency to hemorrhage during the operation and in the next few hours following the operation. Also, when the Cesarean section is done in advanced labor there is a predisposition to atony of the uterus following extraction of the child. These are the general considerations for the

Cesarean section operation, but in special cases we may have heart lesions complicated by an indication for Cesarean section. Also the toxemias of pregnancy may be used as an indication for Cesarean section. In this last group of cases it is evident that the operation should not have a post-anesthetic toxemia or acidosis.

As a routine, then, with the above suggestive considerations in mind, it has been my practice to use nitrous oxid-oxygen in combination with local anesthesia. In the heart cases we do not use the gas-oxygen as I feel that gas-oxygen is not free from danger in a heart case, and a straight local anesthesia is used on a patient well *digitalized* and given a preliminary dose of morphin several hours before the time of operation.

Technic

THE TECHNIC is simple. The inhalations of nitrous oxid-oxygen are begun before the infiltration of 1-200 novocain solution without adrenalin. The skin and fascia are the principal areas to be infiltrated and the parietal peri-

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toneum is infiltrated as well as possible. The visceral peritoneum, covering the uterus, is without sensory nerve endings, hence no anesthetic is required there. The greatest pain felt by the patient is either in incising the skin or else is due to the assistants pulling too vigorously on the uterus, thus traumatizing the parietal peritoneum.

To control bleeding during operation, an ampule of pituitrin solution is directed into the uterine musculature. Also, the third stage, that of separation of the placenta, is usually allowed to take place spontaneously. For the infiltration work the Dunn apparatus can be used to advantage.

Advantages

HAVING ASSISTED at Cesarean operations done under ether anesthesia, and having performed them under the

combined anesthesia technic, I find the following differences in general:

1. There is less trouble in resuscitating the child and there is much less bleeding during the operation and in the first few hours following.

2. Postoperative vomiting and ileus is much less frequent when the gas-oxygen is used than with the local alone or with ether anesthesia alone. This latter point is of great importance when we are dealing with an exhausted patient, a highly toxic patient or a heart case. I might say here that in the heart cases many times the indication for operation is not of dread a cardiac complication of labor but the providing of an opportunity for sterilization.

This technic has been used satisfactorily by Drs. J. Clarence Webster, N. S. Heaney, and myself at the Presbyterian Hospital of Chicago for some years past.

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THE biggest thing about big success is the price; it takes a big man to pay it. You can measure in advance the size of your success by how much you are willing to pay for it; not in money, but in the time, thought, energy, economy, purpose, devotion, study, sacrifice, patience and care that a man must give to his life work before he can make it amount to anything.