

## NOTE

### MORAL PRINCIPLES OF ANESTHESIA: A RE-EVALUATION

Anesthesia, in its most generic concept, is described merely as the "loss of feeling or sensation, especially loss of tactile sensibility, though the term is used for loss of any of the other senses."<sup>1</sup> This generic concept is normally understood to include the systemically induced narcosis and loss of motor response which is popularly known as "general anesthesia," whether the anesthetizing compound is introduced by inhalation, ingestion, rectally, or by intravenous injection. The general term "anesthesia" also includes the specific concepts of "regional" or "local" anesthesia, induced by the application of a drug locally to a nerve or series of nerves, thus achieving loss of sensation limited to a definite area of the body.<sup>2</sup>

#### ANESTHESIA AND THE CHRISTIAN CONCEPT OF PAIN

The voluntary acceptance of suffering from a supernatural motive has a definite place in authentic Christian asceticism, and there can be times and circumstances in which physical suffering is not only implied in the pursuit of Christian perfection, but may be in some circumstances even demanded in adherence to basic Christian morality. These, however, are not the usual questions which arise in a consideration of the moral aspects of clinical anesthesia and analgesia.

A valuable general orientation in this regard is to be found in the following quotations from Pope Pius XII's Address to a Symposium of the Italian Society of Anesthesiology (February 24, 1957):

The fundamental principles of anesthesiology, as a science and an art, and the end it pursues, give rise to no difficulties. It combats forces which, in a great many respects, produce harmful effects and hinder greater good. . . .

The patient desiring to avoid or relieve pain can in good conscience use those means discovered by science which, in themselves, are not immoral. . . .

Within the limits laid down, and provided one observes the required conditions, narcosis involving a lessening or suppression of consciousness is permitted by natural morality and is in keeping with the spirit of the gospel.<sup>3</sup>

<sup>1</sup> *Dorland's Medical Dictionary* (21st ed.; Philadelphia, 1947).

<sup>2</sup> "Analgesia" is a term not always sharply distinguished from anesthesia. It is described simply as loss of sensibility to pain and represents milder pharmacological approaches to pain or discomfort, whether physical, psychic, or both.

<sup>3</sup> Pius XII, Address to a Symposium of the Italian Society of Anesthesiology, Feb. 24, 1957; *L'Osservatore romano*, Feb. 25-26, 1957.

There have been those who have thought that they discerned a scriptural objection to the use of pain relievers specifically during childbirth in the first chapter of Genesis, precisely in the divine communication to the first mother of men: "In pain shall you bring forth children."<sup>4</sup> This would-be difficulty, however, is apparent only to the unscientific amateur in the study of Sacred Scripture. As Pius XII pointed out quite clearly: "... in punishing Eve, God did not wish to forbid and did not forbid mothers to make use of means which render childbirth easier and less painful. . . . These words remain true in the sense intended and expressed by the Creator, namely, motherhood will give the mother much to endure."<sup>5</sup>

#### ANESTHESIA AND INEBRIATION: MORAL CONCEPTS

The general teaching of the moral theologians on the specific malice of inebriation is pertinent to a discussion of anesthesia, and they are often linked together in the standard texts. The malice of inebriation may be summed up as follows: The voluntary violent deprivation of the use of reason plus the concomitant inability to regain it is seriously contrary to right order, if done for mere pleasure and without a serious reason, because it consists of the voluntary abdication of the higher faculties, whereby a man is ordered rightly toward God, and leaves man subject to the disordered directives of his lower faculties and appetites.<sup>6</sup>

Together with this specific malice, one also finds the catalog of concomitant vices and evils which are likely to arise in connection with the disordered use of alcoholic beverage, such as scandal, loose living, wasteful expenditure, bringing grief and disgrace to the family, and jeopardizing eternal salvation itself. These evils, however, as Zalba points out, pertain to the malice of inebriation in an accidental rather than in an essential way.<sup>7</sup>

When these authors, in turn, approach the question of general anesthesia they usually do so under the heading of inebriation. The moral objects of inebriation and general anesthesia are viewed as essentially the same, both

<sup>4</sup> Gn 3:16.

<sup>5</sup> Pius XII, Address to a Group of Catholic Obstetricians and Gynecologists, Jan. 8, 1956; *The Pope Speaks* 3 (1956-57) 32-33.

<sup>6</sup> H. Davis, S.J., *Moral and Pastoral Theology* 1 (6th ed.; London, 1949) 244-45; E. Genicot, S.J., and J. Salsmans, S.J., *Institutiones theologiae moralis* 1 (17th ed.; Brussels, 1951) n. 183; B. H. Merkelbach, O.P., *Summa theologiae moralis* 2 (8th ed.; Montreal, 1949) n. 986; J. A. McHugh, O.P., and C. J. Callan, O.P., *Moral Theology* 2 (rev. ed. by E. P. Farrell, O.P.; New York, 1958) n. 2480; H. Noldin, S.J., and A. Schmitt, S.J., *Summa theologiae moralis* 1 (27th ed.; Regensburg, 1940) n. 346; M. Zalba, S.J., *Theologiae moralis summa* 1 (2nd ed.; Madrid, 1957) n. 1104.

<sup>7</sup> Zalba, *op. cit.*, n. 1100.

being the violent voluntary deprivation of the use of reason plus the inability of quickly regaining it, and this by the introduction into the system of toxic depressants of the brain cortex and other tissues. But when the idea of "for mere pleasure and without serious reason" is supplanted by "not for the sake of mere pleasure but to avoid the serious evil," the moralists have no hesitancy in defending the liceity of general anesthesia.

Even here, however, the usual approach is by way of the principle of double effect. The total inebriation is looked upon as the evil effect, which is foreseen and permitted, but not intended; while the intended good effect is either the cure of some grave illness or the alleviation of severe physical pain. The element of due proportion is viewed as requiring a grave reason to admit the induced inebriation, and the grave reason is presupposed as inherent in the need of therapy which would involve total anesthesia.<sup>8</sup>

#### DOUBLE EFFECT OR PRINCIPLE OF TOTALITY

While many of the standard moralists justify total inebriation when used as a therapy for serious illness or to alleviate severe pain under the principle of double effect, Vermeersch has a somewhat different approach. In commenting on the morality of what might be called therapeutic inebriation, Vermeersch likens it to a "temporary mutilation" and adds that to intend it "when it is not morally necessary for the good of the whole, e.g., to regain health," is evidently illicit and wrong.<sup>9</sup>

This approach along the lines of mutilation and therefore under the principle of totality seems more appropriate than the application of the principle of double effect. It is easy enough to recognize double effect in those cases where the pharmacological effects of alcohol in inebriating doses would be required (independently of the inebriating effect) to combat some disease. But the practical application to modern medicine is not too clear, and the common example given by the older authors—as a remedy for snake bite—is less than scientifically accurate. On the other hand, when one tries to apply the principle of double effect to the really practical therapeutic use of toxic inebriants, i.e., to alleviate or obviate severe pain, it is not so easy to purify the evil effect (total inebriation or anesthesia) from the notion of being a necessary means to the good effect.

<sup>8</sup> Genicot-Salsmans, *op. cit.*, n. 185, add the interesting observation: "There does not seem to be any moral difference between this means [alcohol] and others, for example, chloroform, which common opinion permits to be used in virtue of the principle of double effect."

<sup>9</sup> A. Vermeersch, S.J., *Theologia moralis* 2 (3rd. ed.; Rome, 1945) nn. 670 ff.

## GRAVE CAUSE

Whether the problem is approached from the viewpoint of a temporary and reversible mutilation, or from the principle of double effect, the older authors would seem to require a serious reason to admit the total deprivation of consciousness in the adjuncts of either total inebriation or general anesthesia. Many of the authors referred to explicitly state this as a necessary condition,<sup>10</sup> and although Vermeersch does use the term "proportionate reason," he uses it concomitantly with such terms as "morally necessary for the good of the whole" and "to regain health."<sup>11</sup>

To simply equate anesthesia with inebriation, and thus demand a grave cause for inducing either total anesthesia or total inebriation, presents difficulties in modern clinical applications. For example, let us suppose that a man has need of some fairly simple abdominal surgery, such as an appendectomy. Let us further suppose that his physician gives him the choice of regional anesthesia by spinal block or general anesthesia. With regional anesthesia he would experience no pain during the surgery, and let us say that the risk would not materially differ from the risk of general anesthesia.<sup>12</sup> Although he is not particularly disturbed at the idea of regional anesthesia, which would leave him completely conscious during the whole procedure, still he would prefer to have general anesthesia and be "asleep." Since there is evidently no grave reason to have general anesthesia, it would seem that the logical conclusion (from the teachings reviewed above) would be that his choice of general anesthesia would be morally wrong.

In summary, then, the following points in the long-standing teachings of the standard authors present a difficulty in connection with modern concepts and practice of anesthesia: (1) Total inebriation (i.e., the suppression of the higher faculties, at least without the possibility of immediate reactivation), whether induced by alcoholic beverage or by anesthetic medication, does not differ as to moral object. (2) To induce this unconscious state

<sup>10</sup> Genicot-Salsmans, *loc. cit.*; Merkelbach, *op. cit.*, n. 989 (3); McHugh and Callan, *op. cit.*, n. 2477 (b); Noldin-Schmitt, *op. cit.*, n. 348; Zalba, *op. cit.*, n. 1105.

<sup>11</sup> Vermeersch, *loc. cit.*

<sup>12</sup> Regional anesthesia by spinal block is produced by injecting the anesthetic drug into the subarachnoid space of the lumbar region of the spinal column. Nerve fibres emanating from the area are bathed by the drug, thus providing complete regional anesthesia for surgery below the point of injection and excellent muscular relaxation. It avoids the inhalation of irritating drugs and the loss of consciousness. When used apart from any contraindication, the inherent risks are not materially greater or less than with general anesthesia. Cf. John Adriani, *Techniques and Procedures of Anesthesia* (2nd ed.; Springfield, 1956) *passim*; S. C. Cullen, *Anesthesia* (5th ed.; Chicago, 1957) *passim*.

for mere pleasure or without a sufficiently grave reason is a seriously sinful deordination in man's proper use of his higher faculties. (3) The proportionately grave reason for complete loss of consciousness (total inebriation or general anesthesia) would be that it would be necessary for the conservation of life or health, such as to overcome the extreme pain of general surgery or to preclude the violent movement caused by such pain during surgery.

All of this makes perfect sense when viewed in the light of the early development of anesthesia. Over the last half century, however, the human failing of self-inebriation by alcoholic beverage has remained unchanged, while the clinical science of anesthesiology had advanced dramatically. Indeed, perhaps it has changed so much that to simply equate it to, and evaluate it by, the principles of complete inebriation has become an inadequate and even inaccurate moral approach.

#### DEVELOPMENT OF ANESTHESIA

Throughout the known history of man, alcoholic concoctions have been used for the relief of pain because of their evident hypnotic and analgesic effects. The same can be said of a number of roots, seeds, and aromas which achieved their effect by being eaten, chewed, or burned and inhaled. But all of these crude substances, including alcohol, had many dangerous and inappropriate side effects, and their action was for the most part unpredictable and beyond control.

Any discussion of who discovered anesthesia is irrelevant to the present question. But it is important to note that long before a group of serious physicians first stood in the surgical theatre of the Massachusetts General Hospital with an etherized patient, prepared for surgery, before them (Oct. 16, 1846), medical students and side show performers had popularized what might be called "ether binges" and "nitrous oxide jags," characterized by euphoric intoxication and boisterous drunkenness.

Broadly speaking, there does seem to be a logical historical connection and development between whiskey and ether (or nitrous oxide), from beverage to binge to clinical benefit. The early methods of anesthesia were crude and the effects not too well controlled, and the world contented itself pretty much with ether or chloroform for major surgery and nitrous oxide for minor procedures until World War I, when the need of surgery on patients already in shock spurred deeper research into more controllable anesthetic agents.<sup>18</sup>

<sup>18</sup> Nitrous oxide was prepared and described by an English scientist, Joseph Priestley, in 1777, sixty-seven years before its first definite use as a general anesthesia (1844). Diethyl

In the early days of anesthesia there were a great many unanswered questions, such as: What new anesthetic agents might be less hazardous and offer a wider margin of control? How long could anesthesia be safely maintained? What were the best combinations of the known agents? How could oxygen best be mixed with anesthetic vapor, and in what proportions? How could the violent agitation of induction be overcome and the prolonged period for reactivation be shortened? How could lung irritation be lessened and airway patency made more sure? In the last forty years most of these questions have been successfully studied and clarified.

As the art of anesthesia continues to develop, there is more and more reason to look upon it as a clinical adjunct to the patient's comfort as well as his safety, and, in spite of the induced loss of consciousness, less and less reason to demand a serious and grave cause to justify carefully controlled clinical application.

#### DANGERS OF GENERAL ANESTHESIA

All this is not meant to imply that general anesthesia is an inconsequential procedure or that there are no real dangers to the patient in its clinical

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ether had been known for centuries before its clinical application as an anesthesia, and "ether frolics" were popular in the United States and Great Britain in the early 1840's. At that same time Crawford Long, William Morton, and Charles Jackson were experimenting with a clinical anesthetic application of ether. Finally, in October of 1846, its clinical use was first really accepted beneath the "Ether Dome" of the Massachusetts General Hospital on the day that William Morton anesthetized one Gilbert Abbot, and John Collins Warren removed a tumor. It was about this time that Oliver Wendell Holmes applied the term "anesthesia" to this type of "clinical binge," and the term has stuck. Meanwhile, Simpson of Edinburgh introduced chloroform in England in late 1847. Twentieth-century advances in the United States were marked by the clinical introduction of ethylene gas (1923) and cyclopropane (1933). Vinethene and the intravenous use of pentothal sodium and associated barbiturate derivatives came likewise in the early 1930's, and the curariform relaxants in the '40's. Improvements and refinements of apparatus, of premedication, and of recovery-room procedures have advanced apace.

The modern anesthetist has at least a dozen tested and accepted anesthetic compounds, and he may use many of them successively and in combination during a given surgical procedure. He makes his own careful evaluation of the patient from a study of the medical charts and his own preoperation visit. Only then does he plot the course of anesthesia, depending on the type and duration of the surgery, the depth of anesthesia and the degree of muscle relaxation that will be optimal during the various stages of surgery, the physical and mental condition of the patient, the pharmacological action of the various anesthetic drugs in this particular patient in view of his living habits, underlying disease, and past medical history. Even the skill and dexterity of the individual surgeon may enter into the anesthetist's plans. Finally, in view of all this, he plans a particular "tailor-made" course of preanesthesia medication which is likewise designed to complement the specific course of anesthesia which he has decided upon.

application. On the contrary, there is always considerable anesthetic risk. Although the surgical death rate that is truly attributable to anesthesia is difficult to determine, it ranges (in published reports) between 1:350 and 1:4000.<sup>14</sup>

Respiratory difficulties may arise and may result in anoxia (inadequate oxygenation of tissue), cyanosis (due to reduced hemoglobin in the blood), hyperpnea (excessive rate of respiration), hypopnea (decrease in respiration); or apnea (cessation of respiration) in turn may result in dangerous derangement of tissue oxygenation and carbon dioxide content. Moreover, obstruction of the airway due to laryngospasm (spasm of vocal cord muscles) or other reasons can present serious dangers. There may be tachycardia (rapid pulse) or bradycardia (slow pulse) and disturbance of normal heart rhythm with dramatic blood pressure fluctuations. Convulsions and vomiting with danger of asphyxiation can occur, as can shock, to mention some of the possible complications of general anesthesia.

It should be noted, however, that there are established procedures designed to prevent and counteract all of these difficulties and that not a few of them are as likely to occur under regional as under general anesthesia. Moreover, a proper proportion between anesthesia risk (whether general or regional) and benefit to the patient would be inherent in a clinical situation which constitutes a medical indication for anesthesia; and, irrespective of the patient's whims, a good anesthetist would limit his selection to that procedure which would be notably safer in a given case. This last consideration is, for the anesthesiologist, an integral part of the moral aspects of anesthesia.

#### MORAL CONCLUSIONS

In view of all this, perhaps it is time that the moral concept of general anesthesia be taken out from under the principles of inebriation and evaluated on its own merits.

The voluntary deprivation of the use of reason, induced artificially and with the concomitant inability to regain it immediately, is still part of the picture. But is it exactly the same thing, from a moral viewpoint, when it is induced by wanton intoxication as when it is induced in the adjuncts of carefully clinically controlled anesthesia, and must we conclude that the attendant evils of drunkenness have in no way influenced the identification of the specific malice? It would seem not. Nor does it seem necessary that from the analysis of *this* deordination as being primarily the wilful and

<sup>14</sup> R. P. Dripps, J. E. Eckenhoff, and L. D. Vandam, *Introduction to Anesthesia* (Philadelphia, 1957) p. 36.

artificially induced loss of consciousness, one must conclude to the universal major that whatever possible wilful and artificial abdication of consciousness in whatever circumstances is necessarily a grave deordination of nature.

Neither does there seem to be any inconsistency in granting that the malice of inebriation is as the theologians have analyzed it and that early anesthesia was sufficiently like *ebrietas* to be classified with it, but that modern anesthesia is sufficiently different to warrant an independent moral analysis of *this* wilful and artificial deprivation of consciousness. The concomitant evils of drunkenness are listed as secondary, but in reality they cannot but color, and somehow be included in, the specific malice. This is particularly true of the uncontrolled aspects of drunkenness, when the individual is liable to do serious harm to himself and to others.

It seems rather that general anesthesia, as it is practiced today, includes an abdication of reason which in the circumstances can scarcely be called a real moral deordination. Rather should it be classed as a temporary mutilation which, granted the proper safeguard, careful control, and the minimal risk of its ordinary induction under favorable circumstances in a reasonably fit subject, can be morally licit for any reasonable clinical indication, and even in preference to regional anesthesia, for the greater comfort of the patient.

Thus it would seem clear that in the case of the appendectomy the patient who clinically could elect surgery with spinal block or with general anesthesia would be morally free to elect general anesthesia without having any very serious reason for doing so.

Hence, the morality of a specific clinical use of anesthesia should not be evaluated so much in the light of the reduction of consciousness, which in these adjuncts has a negligible moral impact, but rather in view of a proper proportion between the clinical advantage of the anesthesia and the risk involved. Thus the moral issue of any particular case is left where it should be, namely, to the competent clinical evaluation of the anesthetist.

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