Volume 65, No. 3
September 1986

THE JOURNAL OF Anesthesiology
THE AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC.

EDITORIAL VIEWS

Anesthesiology
65:245–246, 1986

Obstetric Anesthesia Coverage—A Continuing Problem

ONCE AGAIN, A SURVEY of obstetric anesthesia practice in the United States has been completed.[1] Once again, we find that many, if not most, parturients in this country do not receive ideal obstetric anesthesia care.

The first national survey of obstetric anesthesia practice in the United States was completed more than 25 years ago.[2] That survey disclosed that anesthesiologists assumed responsibility for vaginal-delivery anesthesia in only 14% of hospitals. In 31% of hospitals, nurse anesthetists provided this care, in 22% obstetricians, and in the remaining 28% nonspecialty physicians, operating room nurses, medical students, and anesthesia (1.6%) or obstetric (4%) residents. Anesthesiologists provided anesthesia for cesarean delivery in 40% of the hospitals surveyed, nurse anesthetists in 33%, nonspecialized personnel in 20%, and obstetricians in 6% of hospitals.

About 10 years later (1970), the American College of Obstetricians and Gynecologists (ACOG) conducted a survey of all maternity units in the United States.* The participation of anesthesiologists was still low. They administered anesthesia for vaginal delivery in only 12% of maternity centers while nurse anesthetists provided anesthesia in 25%, obstetricians in 34%, and "others" in 18%. However, the role of the anesthesiologist in cesarean delivery had increased. They were responsible for anesthesia for cesarean delivery in 74% of all maternity units. Obstetricians and obstetrician-supervised nurse anesthetists were still administering a significant proportion of the anesthesia for cesarean section, especially in hospitals that delivered less than 500 babies per year. The current survey by Gibbs *et al.*[1] indicates that anesthesiologists continue to administer anesthesia for approximately 70% of cesarean deliveries, and in only 20% of vaginal deliveries. All three surveys report that an anesthesiologist was available around the clock in only a small percentage of hospitals. Deficiencies were greatest in the smaller hospitals.

What is "ideal" obstetric anesthesia coverage? Ideally, a well-trained anesthesiologist should be available to provide anesthesia care for any parturient with the need or desire for it. Appropriate anesthesia equipment and support services must also be available. Should a maternal or fetal emergency occur, rapid intervention is crucial. Gibbs *et al.*[1] report an obstetrician "always in-house" in only 8% of the smaller hospitals and 55% of the larger ones, and an anesthesiologist in-house in only 3% of the smaller hospitals and 38% of the larger ones. Needless to say, it is difficult to provide optimal coverage, such as brief "decision-to-incision" times for cesarean deliveries, when the anesthesiologist is not in-house. Similarly, providing a brief "decision-to-incision" time is not possible if an obstetrician is not in-house to permit a short "critical event-to-decision" interval.

It is, however, impractical to expect smaller maternity units to provide this level of coverage. In a hospital that delivers 500 babies per year, it is estimated that there are no deliveries on approximately 90 days and only one delivery on 125 days (fig. 1). The importance of combining smaller maternity units into larger regional centers is obvious and has been recognized for many years. However, Gibbs *et al.* report that in 22 states in the past 5 years there has been a proliferation of hospitals delivering less than 500 babies per year. The factors encouraging this regrettable decentralization of services are not fully apparent, but the frequent requirement that hospitals offer full medical services in order to qualify for Health

Accepted for publication March 20, 1986.

Address reprint requests to Dr. Shnider: Department of Anesthesia, University of California School of Medicine, San Francisco, California 94143.

Key words: Anesthesia: obstetric. Manpower.

* A report of the committee on maternal health: National study of maternity care, Survey of Obstetric Practice and Associated Services in the Hospitals in the United States. Chicago, American College of Obstetricians and Gynecologists, 1970.

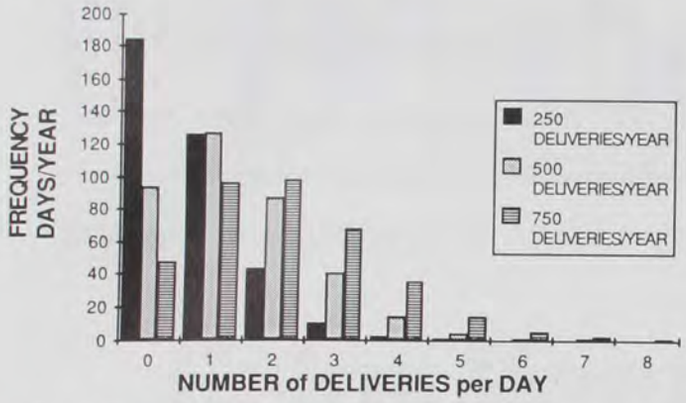

FIG. 1. Histogram showing the anticipated number of deliveries per day according to the number of deliveries per year. These data were derived using the Poisson equation for a random distribution of events in time. This distribution has been documented for vaginal deliveries.[3]

Maintenance Organization contracts certainly encourages decentralization. We hope the survey by Gibbs *et al.* indicating the poor anesthesia coverage will stimulate incorporation of smaller units into regional centers and discourage the development of new units. Small units providing services to climactically or geographically isolated areas are obviously an exception.

In many maternity units the compromise for providing obstetric anesthesia coverage has been for obstetricians to administer their own anesthetic or to use nurse anesthetists supervised by obstetricians. Currently, in the United States obstetricians administer 42% of the spinal anesthetics for vaginal delivery and 30% of all the epidural anesthetics for labor. A nurse anesthetist, directed by an obstetrician, administers approximately 25% of the general and 19% of the regional anesthetics for cesarean section. In the smaller hospitals, obstetrician-directed nurse anesthetists administer 55% of the general anesthetics and 54% of the regional anesthetics for cesarean section. These numbers, we believe, are alarming. The administration of general or regional anesthesia involves numerous medical judgments, such as: evaluation of appropriate techniques; choice of agents; management of both rare and common anesthetic complications; and knowledge of interaction of anesthetic and obstetric drugs and of the impact of anesthesia on obstetric and medical complications such as preeclampsia or heart disease. While most nurse anesthetists possess adequate and often excellent technical skills for the administration of an anesthetic, they are not trained as physicians and cannot be expected to make medical decisions. Obstetricians who provide anesthesia coverage rarely have the training and expertise necessary to administer or supervise administration of major conduction or general anesthesia properly. Currently, most obstetric residents receive no formal training in obstetric anesthesia. It is therefore unreasonable to expect them to become responsible for direct supervision of nurse anesthetists. Anesthesiologists must therefore fulfill their responsibilities for supervision of the anesthesia care team.

What steps can be taken to make obstetric anesthesia coverage more palatable for the anesthesiologist? Gibbs *et al.* have made a number of useful and realistic suggestions including improved hospital design to make labor and delivery suites closer to the operating room, improved remuneration for this demanding subspecialty, improved interpersonal relationships between anesthesiologists and obstetricians, and greater mutual understanding of their respective problems.

The most significant conclusion to be drawn from the survey by Gibbs *et al.* is that, as in the past, smaller maternity units do not provide adequate obstetric anesthesia coverage or care. Elimination of the small units by consolidation is probably the single most important step toward improving the quality of obstetric anesthesia care in the United States. With the increasing number of well-trained young anesthesiologists, maternity units that are large enough to provide the anesthesiologist with a reasonable work load, call schedule, and income may indeed attract anesthesiologists to provide 24-hour in-house coverage.

GERSHON LEVINSON, M.D.
Associate Clinical Professor of Anesthesia
University of California San Francisco
Staff Anesthesiologist
Childrens Hospital of San Francisco
3700 California Street
San Francisco, California 94118

SOL M. SHNIDER, M.D.
Professor of Anesthesia, Obstetrics, Gynecology, and Reproductive Sciences
University of California San Francisco
San Francisco, California 94143

References

1. Gibbs CP, Krischer J, Peckham BM, Sharp H, Kirschbaum TH: Obstetric Anesthesia: A National Survey. ANESTHESIOLOGY 65:000–000, 1986
2. Phillips OC, Frazier TM: Obstetric anesthesia in the United States. Obstet Gynecol 19:796–802, 1962
3. Cormack RS: Predicting the obstetric work-load. Anaesthesia 39: 552–553, 1984