

Be It Anesthesiologist or Anesthetist, Complications the Same

CREDITS:

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SPOKANE, Wash., March 14 -- Whether anesthesiologists or nurse anesthetists were on the job during caesarean births, there were no significant differences in the rate of anesthetic complications, according to investigators here.

Action Points

- Explain to patients who ask that anesthesiologists are specialists with a medical degree, compared with certified registered nurse anesthetists who have special training in anesthesia.

Their study compared hospitals in Washington State where only anesthesiologists were permitted to do anesthesia and institutions that used only certified registered nurse anesthetists and found no significant complication rate in cesareans over 12 years, they reported in the January/February issue of *Nursing Research*.

"Hospitals and anesthesiology groups, particularly those in rural areas and those in medically underserved urban areas with large Medicaid populations, now have a possible long-term solution to their obstetrics anesthesia staffing needs: greater use of nurse anesthetists working without anesthesiologist supervision," said Daniel C. Simonson, C.R.N.A., M.H.P.A, chief anesthetist and managing partner of the Spokane Eye Surgery Center.

But that conclusion does not sit well with the American Society of Anesthesiologists, said the group's first vice president, Roger Moore, M.D., who is also chairman emeritus of anesthesiology at Deborah Heart and Lung Center in Browns Mills, N.J.

"The American Society of Anesthesiologists' view, as written throughout its papers, is that anesthesia is best provided either directly by an anesthesiologist or under the direct supervision of an anesthesiologist, whether that anesthesiologist is supervising a nurse anesthetist or anesthesiology assistant," said Dr. Moore in an interview.

Dr. Moore noted, however, that there are not enough anesthesiologists who can serve in a supervisory capacity, and in such cases medical oversight of nurse anesthetists or anesthesia assistants should be provided by "some other physician."

In their study, Simonson and colleagues at Washington State University in Spokane and the West Virginia University School of Medicine in Morgantown, extracted records from the Washington State hospital discharge database on all caesarean sections performed from 1993 to 2004.

They merged the data with those gathered in a survey of hospital obstetrical anesthesia staffing, and compared hospitals in which only anesthesiologists staffed the obstetric surgical room with those in which only nurse anesthetists were on hand during a caesarean.

The study covered a total of 134,806 patients: 33,236 who were cared for at hospitals whose obstetric anesthesia was staffed by nurse anesthetists only, and 101,570 treated in hospitals where only anesthesiologists handled obstetric anesthesia.

The main study outcomes were anesthetic complications identified by International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnostic codes.

They also performed a regression analysis to determine odds ratios for complications by type of staffing, adjusted for independent variables such as hospital characteristics (urban versus rural, beds, academic versus non-teaching), and patient demographics (age, primary payer, type of admission, admitting physician, and co-morbidities).

They found that hospitals staffed with only nurse anesthetists treated a higher percentage of rural, teaching, urgent admission, and patients younger than 17, while hospitals with anesthesiologists only had a higher percentage of emergency admissions and older mothers.

A total of 965 patients in the sample were identified as having at least one anesthetic complication, and 100 of these patients had more than one ICD-9-CM code signifying anesthesia complications.

Most of the cases (76% of all anesthetic complications) were coded with the less serious "other" designation, the authors noted. Other complications include pulmonary in 9% of the 965 patients, cardiac in 4%, and central nervous system in 2%.

There were also 17 deaths, although only one of the deaths had an associated diagnostic code indicating an anesthesia complication.

"Hospitals with certified registered nurse anesthetists-only staffs had a complication rate of 0.58%, whereas anesthesiologist-only hospitals had a rate of 0.76%," the authors wrote. "The results are significantly different ($P<0.0006$)."

After adjusting for covariates, the odds of a patient at a certified registered nurse anesthetist-only hospital having an obstetrical anesthetic complication compared with an anesthesiologist-only hospital was not significantly different ($P=0.85$).

Variables that correlated significantly with the rate of anesthetic complications included emergency admissions, postpartum hemorrhage, and other complications of labor and delivery.

"The study results clearly demonstrate that obstetric anesthesia complications are no different between the certified registered nurse anesthetist-only and anesthesiologist-only staffing models," Simonson said in a statement. "Expectant mothers can have great confidence knowing that they and their babies will be safe in the care of a nurse anesthetist or an anesthesiologist."

"Further, hospital administrators and anesthesiology groups can comfortably consider variables other than provider safety or quality -- such as provider availability, cost, and the percentage of Medicaid patients cared for at their facility -- when staffing for obstetrical anesthesia," he added.

But Dr. Moore noted that a reviewer assigned to look at the study on behalf of the American Society of Anesthesiologists reported that the researchers were essentially comparing apples to oranges, and that the results were unreliable.

"There were a lot of statistical problems with the study," Dr. Moore said, "and the researcher who evaluated the study concluded that it was not good research. It was simply a compilation of numbers and they didn't find a difference in the numbers, but the actual practices were so different, and the actual data collection was not done rigorously enough, that it would not be proof of anything."

The investigators acknowledged that the study was limited by its reliance on administrative data that may not provide as accurate a reflection of complications as a chart review. In addition, the study was based on a survey of hospital staffing patterns, and that "the accuracy of this staffing categorization could be limited by record keeping or by survey respondents' memory of staffing patterns for the 12-year period."