

CORRESPONDENCE

References

1. Christopherson R, Beattie C, Frank SM, Norris EJ, Meinert CL, Gottlieb SO, Yates H, Rock P, Parker SD, Perler BA, Williams GM: Perioperative morbidity in patients randomized to epidural or general anesthesia for lower extremity vascular surgery. *ANESTHESIOLOGY* 79:422-434, 1993
2. Tuman KJ, McCarthy RJ, March RJ, DeLaria GA, Patel RV, Ivanovitch AD: Effects of epidural anesthesia and analgesia on coagulation and outcome after major vascular surgery. *Anesth Analg* 73:696-704, 1991
3. Hertzner NR, Avellone JC, Farrell CJ, Plecha FR, Rhodes RS, Sharp WV, Wright GF: The risk of vascular surgery in a metropolitan community. *J Vasc Surg* 1:13-21, 1984
4. Bandyk DF, Cato RF, Towne JB: A low flow velocity predicts failure of femoropopliteal and femorotibial bypass grafts. *Surgery* 98:799-807, 1985

Anesthesiology
80:485, 1994

© 1994 American Society of Anesthesiologists, Inc.
J. B. Lippincott Company, Philadelphia

Factors Affecting Outcome in Patients Undergoing Peripheral Vascular Surgery: II

To the Editor:—The authors of the recent articles comparing general *versus* epidural anesthesia and analgesia for lower extremity vascular surgery are to be commended for the rigorous study they performed.^{1,2} It is, however, of concern that protocol failures (patients assigned to epidural anesthesia but given general anesthesia) were treated differently in the analysis of one part compared to the other part, though they involved some of the same patients. In the first part of the study, assessing morbidity and mortality, protocol failures were treated as epidural anesthesia, whereas in the second part of the study investigating etiologic factors, protocol failures were treated as general anesthesia patients. I am curious as to the authors' rationale. Would a more consistent treatment of protocol failures have altered their results? This is pertinent as it appears that three of the patients having protocol failure suffered morbidity, one died, one developed cardiac ischemia, and one required limb amputation, all of which were outcome variables in the first part of the study.

Neal Badner, M.D., F.R.C.P.C.
Assistant Professor
Department of Anesthesia

Anesthesiology
80:485-486, 1994

© 1994 American Society of Anesthesiologists, Inc.
J. B. Lippincott Company, Philadelphia

In Reply:—In all clinical trials, it is necessary first to report results according to treatment assignment, that is, according to the group to which patients were randomized.¹ This is because it is always possible that there may be some inherent risk caused simply by being assigned to a particular treatment group and that this risk may be

5. Rhodes RS, Krasniak CL, Jones PK: Factors affecting length of hospital stay for femoropopliteal bypass: Implications of the DRGs. *N Engl J Med* 314:153-157, 1986
6. Berlauck JF, Abrams JH, Gilmour IJ, O'Connor SR, Knighton DR, Cerra FB: Preoperative optimization of cardiovascular hemodynamics improves outcome in peripheral vascular surgery. *Ann Surg* 289-297, 1991
7. Rosenfeld BA, Beattie C, Christopherson R, Norris EJ, Frank SM, Breslow MJ, Rock P, Parker S, Gottlieb SO, Perler BA, Williams GM, Scidler A, Bell W, The Perioperative Ischemia Randomized Anesthesia Trial Study Group: The effects of different anesthetic regimens on fibrinolysis and the development of postoperative arterial thrombosis. *ANESTHESIOLOGY* 79:435-443, 1993

(Accepted for publication November 3, 1993.)

University Hospital
339 Windermere Road
London, Ontario
Canada N6A 5A5

References

1. Christopherson R, Beattie C, Frank SM, Norris EJ, Meinert CL, Gottlieb SO, Yates H, Rock P, Parker SD, Perler BA, Williams GM: Perioperative morbidity in patients randomized to epidural or general anesthesia for lower extremity vascular surgery. *ANESTHESIOLOGY* 79:422-434, 1993
2. Rosenfeld BA, Beattie C, Christopherson R, Norris EJ, Frank SM, Breslow MJ, Rock P, Parker S, Gottlieb SO, Perler BA, Williams GM, Scidler A, Bell W, The Perioperative Ischemia Randomized Anesthesia Trial Study Group: The effects of different anesthetic regimens on fibrinolysis and the development of postoperative arterial thrombosis. *ANESTHESIOLOGY* 79:435-443, 1993

(Accepted for publication November 3, 1993.)

overlooked by investigators. For instance, in this study, as soon as investigators knew patients were randomized to epidural anesthesia, hypertension may have been treated differently compared to patients randomized to general anesthesia. Patients about to receive regional anesthesia would be expected to have a sympathectomy; therefore,