tershock, the nurse who administered the shock noted arcing between the electrode paddles. Moments later, another attempt at defibrillation again resulted in arcing. However, at this time the entire cubicle, including articles therein, glowed with an aura of light. The odor of singed hair was noted. The odor of ozone was denied, although with uncertainty. The cardiologist in charge abandoned further attempts at defibrillation. Since we are deeply involved in cardiopulmonary resuscitation, and since Inhalation Therapy is under our auspices, we were asked to ascertain what had happened.

The entire incident was reminiscent of descriptions of coronal or brush discharge, known as St. Elmo's fire. In this case, we surmise that repeated applications of electrode paste and profuse diaphoresis provided a preferential electrical pathway which permitted arcing over the skin surface. This, in turn, ionized the heavy droplet concentration from the ultrasonic nebulizer, thereby providing further alternate pathways for the subsequent discharge to follow. This resulted in the coronal discharge observed by nursing personnel in the unit.

We thought that perhaps an ultrasonic nebulizer might impart an electrical charge to each droplet, thereby creating an electrical conductor.[2] This explanation would appear to be invalid in this instance. While an ultrasonic nebulizer does impart a charge to the droplet it generates, the net charge of the mist is zero.[3] Apparently, this was purely an ionization phenomenon followed by coronal discharge.

We believe this is another instance in the growing list of electrical hazards. While the coronal discharge itself is allegedly harmless, the arcing may not be, and therefore we are: 1) wiping the skin free of perspiration and previously applied electrode paste prior to countershock; and 2) banning the use of "open"-type high-humidity generators in the vicinity of patients potentially in need of countershock.

WILLIAM H. HENNINGER, M.D.
Director, Department of Anesthesia
St. Joseph's Hospital
Reading, Pennsylvania 19603

REFERENCES

1. Electrical Hazards in Hospitals: Proceedings of a Workshop. Edited by C Walter. Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, Washington, D. C.
2. Lelacheur RM: Personal communications
3. Cauthier WD, Lierke EG: Determination of particle charges on ultra-sonically generated aerosols. J Asthma Res 7:165 (June) 1970

Vascular Responses in Arteriosclerotic Patients

To the Editor:—The article by Bonica *et al.*[1] provided long overdue information about vascular responses in normal awake man. We have recently completed a study of peripheral circulatory effects of peridural block, as an adjunctive technique, in patients undergoing vascular surgery in the lower limb.[2] We agree in general terms with Bonica's warning about abolishing sympathetic tone in the presence of myocardial disease, but we would like to comment on this. The patients in our series had myocardial disease ranging from mild to severe and were under light general anesthesia for insertion of the vascular graft and subsequent pre-block blood-flow measurements. After peridural block to T8–9, there was no significant fall in blood pressure or CVP, while graft blood-flow measurements showed a highly significant rise.

The application of the dramatic increase in limb blood flow reported by Bonica has been demonstrated in our series of arteriosclerotic patients. The achievement of an increase in graft blood flow with little change in systemic

blood pressure was most likely due to preblock hydration, gradual institution of a restricted block in the supine position and, perhaps, the cardiac stimulation of moderate blood levels of lidocaine. We underline Bonica's statement that extensive sympathetic blockade in arteriosclerotic patients may prove dangerous. However, the benefit of a restricted peridural block in terms of graft survival appears worthy of consideration.

MICHAEL J. COUSINS, M.B., F.F.A.R.A.C.S.
Assistant Professor
Department of Anesthesia
Stanford University School of Medicine
Stanford, California 94305

REFERENCES

1. Bonica JJ, Berges PU, Morikawa K-I: Circulatory effects of peridural block: I. Effects of level of analgesia and dose of lidocaine. ANESTHESIOLOGY 33:619–626, 1970
2. Cousins MJ, Wright CJ: Graft, muscle and skin blood flow changes after epidural block in vascular surgical procedures. Surg Gynec Obstet 133:59–64, 1971

The Anesthesiologist Unfulfilled

To the Editor:—In a 40-year view of the anesthesia scene, peaks and valleys of an earlier year stand out. Human nature being what it is, the valleys of little progress may be more easily remembered than the peaks of achievement. We often wondered, 20 or 30 or 40 years ago, why so few able men were attracted to our field. Among the basic reasons for this is one I have never heard mentioned: the dull, dull meetings of that time, meetings which were endlessly devoted to the affirmation of the "importance of the open airway." Of course it *was* and *is* important, but to build meeting after meeting on that obviously important but unexciting theme was not likely to attract enough stimulating candidates for training. The span from those early and dreary days to the achievements of the present represents a struggle and an advance of remarkable quality and extent not only in Western countries, but in Eastern countries as well: the development of anesthesia in Russia, for example, from 1956 to 1970. At my first visit there in 1956, nearly everything was done or attempted with local anesthesia. Ether administered through an endotracheal tube was rare. In Vischnevsky's famous clinic pneumonectomies were done (or attempted) under local anesthesia, without either addition of oxygen or the use of positive pressure. In 1970, techniques in Russia, at least in the major cities, were similar to ours. Especially in the U.S.A., in England, and in Scandinavia, there is an intellectual climate equivalent to that of the best specialties in medicine. The meetings are stimulating.

In almost every way the field of anesthesiology has advanced—*in almost every way but one,* standards and performance far exceed those of 25 years ago. I refer to the widespread belief that the chief can maintain his skill and his authority without himself conducting anesthesia. Anesthesia is a technical *and* intellectual specialty. It is true a good many chiefs spend time in the operating theater "supervising." There are endless stories of fiascos in which the chief, whose techniques have fallen away, attempts a difficult, and in the event, disastrous maneuver. If individuals wish to limit themselves to the physiologic or pharmacologic aspects of anesthesia, fine! But they should not call themselves anesthesiologists. Everybody knows what the medical world thinks of surgeons who do not do surgery; I cannot see that the non-practicing anesthesiologists are any better off. Twenty-five years ago the chief usually administered anesthesia regularly; today, this is far less common. I believe such present policies are in error.

HENRY K. BEECHER, M.D.
Dorr Professor of Research in Anaesthesia, Emeritus
Harvard University
Harvard Medical School
10 Shattuck Street
Boston, Massachusetts 02115