respiratory obstruction due to the use of a new type of tracheostomy tube. It has a level tip similar to that of an ordinary endotracheal tube except that it does not have the so-called Murphy side opening at the tip.

The authors found that the oblique tip was bent inward in one patient so as to obstruct the tip of the tracheostomy tube to varying degrees. The authors, in their excellent evaluation of why the tube became obstructed, commented that it was “because of the flexibility of the Pore-Tex tube.” This was a valid observation and, no doubt, is the cause.

An oblique, easily flexed tip, of course, is less traumatic, and the shape encourages easy insertion, an advantage utilized in the ordinary endotracheal tubes. An indwelling tracheostomy tube that is too flexible and cannot be easily repositioned may at times, as shown, become a serious hazard.

It should be made clear that the defective set used was not the Percutaneous Tracheostomy Set (Cook Inc.; Bloomington, Ind.), which uses and recommends the use of any standard, round-tipped tracheostomy tube of appropriate size.

In his fair and clear letter regarding the experience of Sakabu and colleagues, Dr. Friedman pointed out several features of the Per-Fit Tracheostomy Kit (Smiths Industries Medical Systems: Keene, NH) that may cause trouble and made some pertinent recommendations for further investigations to ameliorate the problem.

In the literature, there are reports of hundreds and probably thousands of percutaneous dilatation tracheostomies done with standard types of tracheostomy tubes, but the usual round tip has caused no complications. Adequate dilatation may be obtained by using a well-lubricated 36F dilator with a twisting motion.

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More on Airway Obstruction With Percutaneous Tracheostomy

To the Editor:

I read with interest the letter by Sakabu et al., which unfortunately lacks critical details. We reported a case1 a few years ago that sounds similar to the cases reported by Sakabu et al. The patient in our case report had required prolonged mechanical support and had developed tracheomalacia and granulomatous disease. The tracheostomy tube was totally obstructed by the damaged tracheal. When a longer tube (blue line double cuff; Portex; Ft. Myers, Fla) was inserted, the patient weaned quickly. We have just submitted a manuscript reporting 23 more patients who had developed a similar problem, and when a longer tube was inserted, all but two weaned quickly. Portex sizes reflect the inner diameter in millimeters, while Shiley (Mallinckrodt Group; St. Louis) sizes do not. Care must be taken to ensure that the sizes are equal. The Portex tube is longer in the tracheal length.

I have performed over 400 tracheotomies with the Cook kit (Cook Critical Care; Evansville, Ind) and 150 with the Sims Per-fit kit over the last 10 years. I have taught courses sponsored by both Cook and Sims and can be objective about the differences between them. I will comment on the reply by Friedman to the letter by Sakabu et al. As far as the guidewire and bubble are concerned, this is purely preference. The guidewire for the Sims kit is the same as in the standard pulmonary artery catheter kit and does the job perfectly well. The bubble on the guiding catheter really does not make any difference. Most of the Cook kits have a curved tip that can fracture the inferior cartilage if not used correctly. Dr. Friedman’s own design (Cook) is straight like that of the Sims kit. There is no argument that the design of the Sims tracheostomy tube is much better at this point than the Shiley tracheostomy tube used with the Cook kit.

Cook is coming out with an entirely new tracheostomy tube to compete. Sims has already come out with an inner cannula for the Per-fit. I use both tubes at the moment, and both are excellent. As this technique is used more, there will be complications described with both kits. These are remarkably few.

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T-Wave Inversion in Pulmonary Embolism

To the Editor:

The classical association of right precordial T-wave inversion and pulmonary embolism has been further defined by the simple and elegant study by Ferrari et al. Its terminology, however, does not add to the clarity of its findings. The “anterior subepicardial ischemic aspect” refers to a pattern that is neither subepicardial nor ischemic. For most cardiologists, T-wave inversion connotes, if anything, subendocardial rather than subepicardial ischemia, even though subendocardial infarction is no longer a tenable electrocardiographic entity. Furthermore, ischemia is an uncommon cause of isolated right precordial T-wave inversion, perhaps the traditional “right ventricular strain” should be used instead.

Ferrari et al relate the putative mechanism of T-wave changes to “other clinical conditions known to cause global T-wave inversion.” Again, what they discuss is not what Walder and Spodick might call global T-wave inversion. Although the mechanism of inversion remains unknown in pulmonary embolism, I offer an analogy to cardiac memory of right ventricular pacing or left bundle branch block conduction, where T-wave inversion is usually confined to the same set of leads as in pulmonary embolism. These changes are less

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