Preventing Complications during Percutaneous Tracheostomy

To the Editor—Mphanza et al. described a problem encountered during percutaneous dilatational tracheostomy. The problem was thought to occur because the wire guide had been threaded through the murphy eye of the endotracheal tube, preventing successful passage of the 8 French catheter guide. Since Ciaglia et al. first described the technique of percutaneous tracheostomy in 1985, it has been noted that many of the possible complications were primarily caused by the blind nature of the procedure. This has led to the common practice of passing a fiberoptic scope down the endotracheal tube before passing the needle into the trachea. This not only allows visualization of the needle and subsequent guide wire passage, but it also serves as a safeguard should the tube be pulled back during the procedure. Carrillo et al. described their experiences with a series of 35 patients in which 33 of the procedures were accomplished with bronchoscopic guidance. They observed no significant complications and documented a significant savings with the bedside procedure. Although Berrouschot et al. reported comparable rates of complications between 'blind' versus bronchoscopic-aided percutaneous tracheostomies, the complications were more severe in the blind group.

Thus far, the only disadvantage of the bronchoscopic portion has been the potential for increased intracranial pressure. Carrillo et al. noted increased intracranial pressure in one of their patients. Reilly et al. compared three methods of tracheostomy: percutaneous endoscopic, percutaneous Doppler, and standard surgical technique. In some patients the endoscopic technique resulted in significant hypercapnia and an increase of intracranial pressure to unacceptable levels.

The addition of fiberoptic bronchoscopy to the percutaneous dilatational tracheostomy procedure does not guarantee 100% success of elimination of all complications, but certainly could have prevented the problem encountered by Mphanza et al. Percutaneous dilatational tracheostomy can be accomplished with relatively low risk in a blind technique. However, the procedure has been shown to be safer with the assistance of bronchoscopic guidance and should be undertaken in that manner whenever it is not otherwise contraindicated.

Michael Bouvette, M.D.
Resident in Anesthesiology
Thomas M. Fuhrman, M.D., F.C.C.M., F.C.C.P.
Associate Professor of Anesthesiology
University of Louisville
Louisville, Kentucky 40202-3617
tmfuhr01@ulkyvm.louisville.edu

References


(Accepted for publication October 12, 1998)