Percutaneous Tracheostomy in ICU

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Dear Editor,

We read with interest the recent article of Yavas on the tracheostomy in the intensive care unit.1 The authors treated 205 patients needing tracheostomy, 65.4% with surgical tracheostomy (ST) and 34.6% with percutaneous tracheostomy (PT).

The authors, while performing PT, used two procedures: the Ciaglia percutaneous dilatational tracheostomy technique using multiple dilators and the Griggs percutaneous technique using guidewire-dilating forceps.

We would like to address two points on the use of PT.

First point: Since the first report,2 the technique has undergone an important modification: a single dilator has been substituted for multiple dilators. This is a bevelled and curved dilator for the Blue Rhino and the UltraPerc technique and a screwlike dilating device for the Percu-twist technique described by Frova and Quintel.3 The single-step dilator has the advantage of not requiring a change in dilator, thereby reducing tidal volume loss until the tracheostomy tube is inserted and reducing the bleeding during the changing of dilators.

The Percutwist kit3 has a screw-type dilator with a hydrophilic coating activated by wetting; this dilator has a thin internal lumen and the guidewire slides into that.

The dilator is advanced over the guidewire to the skin and is rotated clockwise into the soft tissue, avoiding pressure over the anterior tracheal wall.

Second point: The procedure can be performed under bronchoscopic guidance to confirm the correct site for puncture that is spotted with tracheal transillumination.

After the correct site of needle is confirmed by bronchoscopy, the metal needle is removed and a Seldinger guidewire is advanced into the trachea through the cannula.

At the end of the procedure, an endoscopic control ensures the correct position of the cannula and checks for any occurring complication. In our Institution, since 2004, we have used PT in nearly all patients. In this period, we treated more than 300 cases both for our Thoracic Cardiovascular Unit and for the general Critical Care Unit. We use either the Percutwist or single-dilator Blue-Rhino technique. The procedure is performed together by an anesthetist and a surgeon under bronchoscopic guidance. Stoma dilation and insertion of cannula were successful in all patients. About early perioperative complications, we observed only one accidental decannulation and one tracheal ring lesion in the Blue-Rhino patients group and one case of moderate bleeding in a Percu-Twist patient. About the late complications, we registered 12 pretracheal tissue infections, nine in the Percu-Twist patients and three in the Blue-Rhino patients. Nevertheless, a recent paper4 on the use of a video system during fiberoptic bronchoscopy seems effective in further reducing the risk of perioperative complications.

In conclusion, we believe that for its less invasiveness, percutaneous tracheostomy may represent a valid alternative to the surgical one. Bronchoscopy represents a real help during this procedure.

REFERENCES