



Journal of Medical Sciences

ISSN 1682-4474

science
alert

ANSI*net*
an open access publisher
<http://ansinet.com>

JMS (ISSN 1682-4474) is an International, peer-reviewed scientific journal that publishes original article in experimental & clinical medicine and related disciplines such as molecular biology, biochemistry, genetics, biophysics, bio-and medical technology. JMS is issued eight times per year on paper and in electronic format.

For further information about this article or if you need reprints, please contact:

Dr. Ata Mahmoodpoor
No. 423,
Arman Residential Tower,
22nd Bahman Ave,
Ashrafi Esfahani Highway,
Tehran, Iran

Tel: +989141160888

Internal Deviation of Tracheal Cartilage: A New Complication for Percutaneous Dilatational Tracheostomy

Kasra Karvandian, Ata Mahmoodpoor,
Mohammad Taghi Beig Mohammadi and Mostafa Mohammadi

Percutaneous Dilatational Tracheostomy (PDT) was first described by Cialgia in 1985 and was then developed by the invention of various devices and methods such as Fantoni, Griggs, etc. Widespread use of this method in intensive care units led to manifestation of its complications (Van Heurn *et al.*, 1996). Hundred patients underwent Griggs percutaneous tracheostomy in intensive care unit of Imam Hospital during 2 years. Demographic data and the complications of this method were noted. All patients underwent bronchoscopy and if there was not any complication, tracheostomy tube was withdrawn. The physician who performed tracheostomy was not the same person who performed bronchoscopy. During bronchoscopy, 3-4 mm internal deviation of tracheal cartilage was seen in 3 patients which this deviation did not interrupt oxygenation and ventilation of patients and was associated with no inflammation and with normal tissue of cartilage. Durations of tracheostomy in these three patients were 2, 3 and 5 months. In surgical tracheostomy tracheal cartilage is cut but in PDT there is possibility of inferior cartilage deviation due to the inserting pressure which this deviation can be increased during time. Despite various advantages of this method, complications such as tracheal cartilage fracture, perforation of posterior tracheal wall, uncontrolled hemorrhage, tracheostomy tube deviation from trachea to interstitial spaces, fistula to innominate artery, tracheoesophageal fistula and tracheal stenosis have been reported which occurs less than traditional surgical methods (Walz *et al.*, 1998). Internal deviation of lower cartilage which was seen in this study did not interrupt ventilation, so did not cause a clinical problem for patients. But when there is secretions and narrowing of airways (such as Asthma, COPD) and during tracheitis or bronchitis, it can produce problems and can induce tracheomalacia and further deviation of airway. So this deviation should be considered as a complication of this method.

REFERENCES

- Van Heurn, L.W., R. Goei and I. Ploeg, 1996. Late complications of percutaneous dilatational tracheostomy. *Chest*, 110: 1572-1576.
- Walz, M.K., K. Pettgen and N. Thurf, 1998. Percutaneous dilatational tracheostomy early results and long term outcome of 326 critically ill patients. *Intensive Care Med.*, 24: 685-690.