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Displacement of T-tube and trachea obstruction caused by enlargement of thyroid

Jihong Cheon[1*], Dongyoul Lee[1], Nana Lim[1], Geunsu Lee[1], Hyunkyung Lee[1], Younkyung Cho[1], Sunghoon Lee[1†]

Kwangju Christian Hospital , Department of Rehabilitation Medicine[1]

Introduction

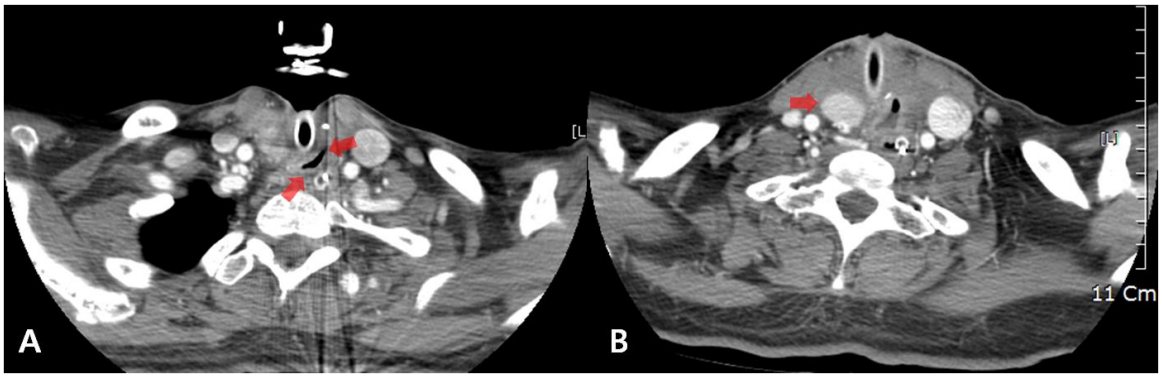
An unidirectional tracheostomy speaking valve prevents expiratory airflow through the tracheostomy tube, providing expiratory flow through the larynx and upper airway, and restoring positive subglottic air pressure. it doesn't have inflating valve so that it can't fit tight allowing move easily and displaced. So careful observation is required in cases where priority is given to airway management. In this case, we introduce the displacement of the speech tube caused by thyroid nodule, one of the well-klnown causes of airway compression and deviation.

Case

41-year-old female patient, S/P Lobectomy of Lt. lobe of thyroid, SAH, ruptured aneurysm clipping, cranioplasty, was hospitalized in speech tube insertion status. The patient was evaluated as quadriparesis, alert mental status, 16point on K-MMSE and 13 point on MBI. She effectively coughed and the amount of secretion was small without stenosis and engrowing granulomatous tissue on fiberoptic airway evaluation. After replacing the speech tube, there was no abnormality of respiration, but after 12 hours, wheezing began to be heard and the patient complained of dyspnea accompanied by cyanosis. We tried to replace the original t-tube, spontaneous breathing disappeared and returned 10 minutes after cardiac compression. On the neck CT scan, the airwaytt was deviated to the lft and narrowed due to thyroid nodule, and the t-tube could not reach the trachea precisely. Therefore through the operation, the existing tracheostomy site was sutured and neuly tracheostomy was performed above. [Fig.1]

Conclusion

In general, the tracheostomy tube can be replaced easily. In our hospital, airway evaluation is usually done in cooperation with ENT before airway-tube removal and change. Sudden obstruction of the airway may be caused if the pressure is constantly causing airway deformation as in this case.



[Fig.1] A. Displacement, compression and collapse of trachea adjacent to tracheostomy tube, B. enlarged right lobe of thyroid