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Tube Thoracostomy Due to Non-Traumatic Reasons

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Objectives: Tube thoracostomy is a fast and effective treatment modality and may be easily performed in the emergency room. The main intention of this intervention is to drain the fluid or air accumulated within the thorax. We designed a retrospective study on patients administered due to non-traumatic reasons and treated with tube thoracostomy.

Methods: Following the permission from the Institutional Review Board, the archive files of the patients over 16 years of age administered to Kütahya Evliya Çelebi Training and Research Hospital were screened for non-traumatic causes of tube thoracostomy. Gender, age, etiology, tube thoracostomy side, catheter caliber, length of hospital stay, morbidity, and mortality, if present, were noted and analyzed.

Results: Within the mentioned period a total of 170 patients underwent tube thoracostomy. There were 153 male (90%) and 17 female (10%) patients. The average age was 45.9±21 years (range 18-90 years). The etiology was primary spontaneous pneumothorax in 108 patients (63.5%). In 97 of the patients tube thoracostomy was performed in the left (57.1%), in 72 in the right (42.4%), and in the remaining one patient in both sides. The catheter caliber differed from 8F to 32F. The average length of hospital stay was 15.9 days (range 0-103 days). Of all patients, 149 were hospitalized (87.6%), and four were referred to various hospitals (2.4%). Unfortunately 17 patients (10%) passed away after the tube thoracostomy on an average of 14.1 days (range 0-45 days).

Conclusion: Tube thoracostomy is the first line of treatment in many cases of pleural air and/or fluid collection due to various reasons. It may be easily performed in the emergency room by experienced physicians. The caliber may vary according to the etiology as well as the clinical experience of the physician performing the procedure. Nevertheless the intervention is relieving and fast. The etiology usually consists of spontaneous pneumothorax either primary or secondary. Of our patients 147 (86.4%) were treated due to pneumothorax. The use of small bore catheters is increasing as the concept of minimally invasive interventions is preferred. We used 8F catheters in 133 (78.2%) of our patients without any complications. Tube thoracostomy due to non-traumatic reasons is a simple, fast, and effective intervention with low mortality rates. The preferred catheter caliber depends mostly on the etiology and the clinical experience of the physician.

Keywords: Tube thoracostomy, emergency room, surgery