

## Evaluation of Percutaneous Tube Thoracostomy Performed by Trainee in Both Trauma and Non-Trauma Patients

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**Abstract :** Background: Percutaneous Tube Thoracostomy (PTT) is an invasive procedure that can save a life now and then in different traumatic and non-traumatic conditions. But still, it is an enigma; how our trainee surgeons are at home in this procedure. Objectives: To evaluate the outcome of the percutaneous tube thoracostomy performed by trainees in both trauma and non-trauma patients. Study design: Prospective, Observational Study. The duration of the study was September 2018 to February 2019. Methods: All patients who need PTT in traumatic and non-traumatic conditions were selected by purposive sampling. Thereafter, they were scrutinized according to eligibility criteria and 96 patients were finalized. A pre-tested, observation-based, peer-reviewed data collection sheet was prepared before the study. Data regarding clinical and surgical outcome profiles were recorded. Data were compiled, edited, and analyzed. Results: Among 96 patients, the highest 32.29% belonged to age group 31-40 years and the lowest 9.37% belonged to the age group  $\leq 20$ . The mean age of the respondents was  $29.19 \pm 9.81$ . We found out of 96 patients, 70(72.91%) were indicated PTT for traumatic conditions and the rest 26(27.08%) were indicated PTT for non-traumatic chest conditions, where 36(37.5%) had simple pneumothorax, 21(21.87%) haemothorax, 14(14.58%) massive pleural effusion, 13(13.54%) tension pneumothorax, 10(10.41%) haemopneumothorax, and 2(2.08%) had pyothorax respectively. In 53.12% of patients had right-sided intercostal chest tube (ICT) insertion, whereas 46.87% had left-sided ICT insertion. In our study, 89.55 % of the tube was placed at the normal anatomical position. Besides, 10.41% of tube thoracostomy were performed deviated from anatomical site. Among 96 patients 62.5% patients had length of incision 2-3cm, 35.41% had  $>3$ cm and 2.08% had  $<2$ cm respectively. Out of 96 patients, 75(78.13%) showed uneventful outcomes, whereas 21(21.87%) had complications, including 11.15%(11) each had wound infection, 4.46%(4) subcutaneous emphysema, 4.28%(3) drain auto expulsion, 2.85%(2) hemorrhage, 1.45%(1) had a non-functioning drain and empyema with ascending infection respectively ( $p < 0.05$ ). Conclusion: PTT is a life-saving procedure that is most frequently implemented in chest trauma patients in our country. In the majority of cases, the outcome of PTT was uneventful (78.13). Besides this, more than one-third of patients had a length of incision more than 3 cm that needed extra stitches and 10.41% of cases of PTT were placed other than the normal anatomical site. Trainees of Dhaka Medical College Hospitals are doing well in their performance of PTT insertion, but still, some anatomical orientations are necessary to avoid operative and post-operative complications.

**Keywords :** PTT, trainee, trauma, non-chest trauma patients

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