Analysis of Complications in Closed Thoracostomy Tube Drainage at the University of Benin Teaching Hospital

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INTRODUCTION

Closed Thoracostomy Tube Drainage (CTTD) is recognized as a lifesaving procedure especially in an emergency situation, where respiratory function is affected by pleural collection or loss of the intrapleural pressure. Closed thoracostomy tube drainage (CTTD) is a common procedure with well-established indications and known complications (Etoch et al. 2000; Ball et al., 2007; Ekpe et al., 2013). The complications are often avoidable especially when the procedure is performed by trained health care provider following appropriate guidelines (Elsayed et al., 2010), and using the blunt dissection technique (Kesieme et al., 2012).

The objectives are to assess the indication and complications associated with chest tube insertion in in University of Benin Teaching Hospital, to identify the factors determining the complications following CTTD insertion by doctors in University of Benin Teaching Hospital over a period of one year and to determine if there is any statistically significant difference between the complications noticed with relationship to various factors of the study.

MATERIALS AND METHODS

This is a one-year prospective observational study from March 2015 to March 2016. It involved the collection of data of all patents who had chest tube inserted in University of Benin Teaching Hospital (UBTH) during the study period using a proforma. The parameters that were observed included, the sex and age of the patient, indication for chest tube insertion, numbers of chest tubes inserted, side of chest tube inserted, time of tube insertion, complications and operator status noted. Status of the operator was divided into junior doctors (house offices and registrars not in specialist thoracic surgery training), registrars, senior registrars (specialist thoracic surgeons in training) and consultant thoracic surgeons. Time of insertion was noted as day time (6am – 6pm) and night time (6pm – 6am).

Those who had chest tube inserted prior to presentation at UBTH, chest tube inserted by physicians, mediastinal tubes, pleural catheter drains, repeated horacocentesis were excluded from the study. The data were entered into IBM SPSS version 21 and analyzed.

RESULTS

A total of 109 patients had 129 chest tubes inserted during the period under review. The average age of patient was 34.2 years and the male: Female 2.6: 1. Other findings are depicted in the tables and figures below.

Table 1: Indication for chest tube insertion

Indications	Number	Percentages (%)
Pneumothorax	24	18.6
Hemothorax	26	20.1
Empyema	31	24.0
Pleural effusion	37	28.7
Post thoracotomy	11	8.5
Total	129	100

Table 2: Complications

Complications	Number
Surgical site infection	7
Empyema thorasis	3
Extra thoracic insertion	5
Tube fallout	6
Total complication	21 (16.3%)

Table 3: complications associated with side of passage

Side of CTTD	Right	Left
No of CTTD	69	62
Complications (%)	6 (8.7)	9 (14.5)

Table 4: Complications associated with time of passage

	Day	Night
No of CTTD	74	55
Complications (%)	9 (12.2)	6 (10.9)

Complications associated with Department of the operator

Department	No	No of complications	Percent (%)
Trauma	18	3	16.7
Thoracic surgery	111	11	9.9

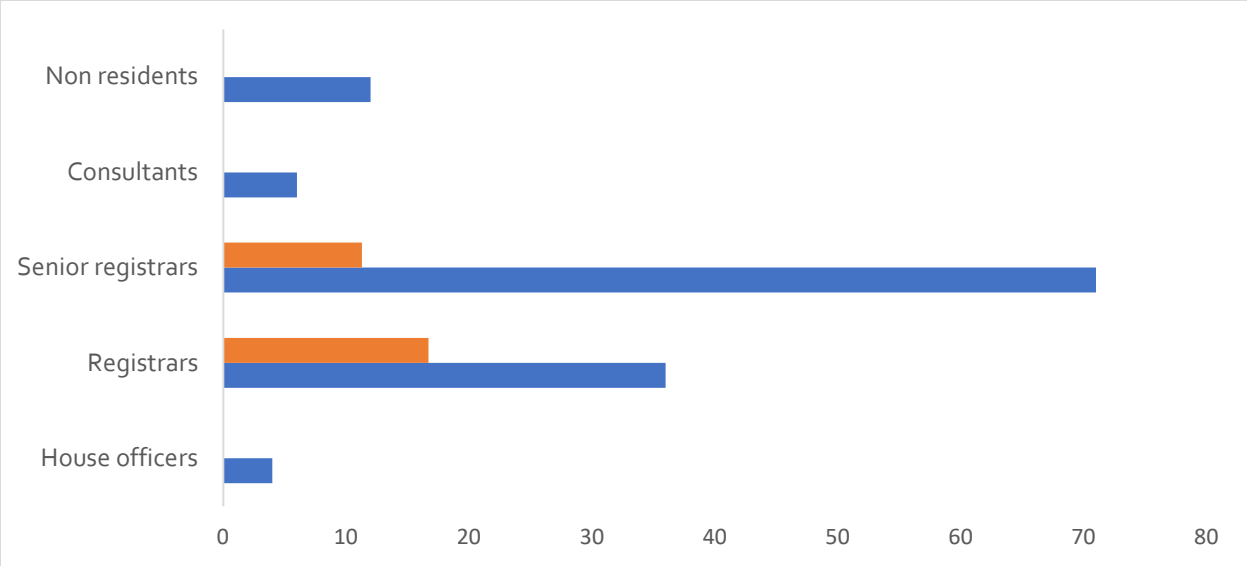

Figure 1: Complications associated with cadre

CONCLUSION

There is the need to equip doctors early in their career with this skill. This is supported by the fact that Closed Thoracostomy Tube Drainage requires very basic surgical skills. Although it is not innocuous, it is more likely to save lives.

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Conflict of interest

The authors declare that they have no conflicts of interest.

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