



Research Week 2020

Comparisons reintervention rates using traditional thoracostomy tubes versus pigtail catheter for the management of traumatic thoracic injuries at a level 1 trauma center

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Keywords

thoracostomy, Pigtail catheters

Abstract

Introduction

Options for tube thoracostomy include smaller bore pigtail style catheters (12-14 French) as an alternative to traditional large bore thoracostomy tubes (>20 french). Pigtail catheters (PC) and their association with less pain has led to increased use for trauma patients. The need for repeat interventions after pigtail versus traditional thoracostomy tubes (TTT) in the setting of acute trauma is unknown. We hypothesized that pigtail catheters would be associated with more complications.

Methods

All trauma patients admitted to our level 1 trauma center who required tube thoracostomy placement from 2016-2019 were prospectively enrolled into our study. The type of thoracostomy tube (pigtail vs. traditional), demographics, injury data, blood transfusions, length of stay, ICU and ventilator days, and complications were collected. Repeat interventions were defined as patients requiring a second intervention on the same side of their chest as a previously placed thoracostomy tube.

Results

During the 3-year study period, 335 trauma patients requiring tube thoracostomy were enrolled with 83 (24.7%) initially having a pigtail catheter placed and 252 (75.3%) having a TTT placed. TTT Patients with initial pigtail chest tube placement were less likely to require a repeat intervention on the same side of the chest (8.4% vs 31.4%, $p < 0.0001$). Of the patients with initial pigtail catheter placement who required reintervention, 0 of 7 (0%) required >1 intervention. Of the patients with an initial TTT who required a reintervention, 36 of 79 (45%) required >1 intervention.

Conclusions

TTT tend to be placed in more severely injured patients than pigtail catheters. After placement, patients with pigtail catheters require fewer reinterventions than TTTs. If patients with traditional thoracostomy tubes require reintervention on their chest, many will require more than one reintervention.