



CWIS Chest Wall Injury Summit 2023

Oral Presentation Abstract Submission

Name Jason McCartt
Credentials MD
Preferred email address jmccartt85@gmail.com
Name of work institution Carolina Medical Center

Additional authors:

	Full Name	Credentials	Email address	Mobile or WhatsApp number
Author/Presenter 2	Samuel Ross	MD	samuel.ross@atriumhealth.org	
Author/Presenter 3	Kyle Cunningham	MD	kyle.cunningham@atriumhealth.org	
Author/Presenter 4	Hannah Wang	PhD	Huaping.Wang@atriumhealth.org	
Author/Presenter 5	Bradley Thomas	MD	bradley.thomas@atriumhealth.org	

Title of Presentation Thal Tubes are Noninferior to Standard Chest Tubes for Traumatic Hemothorax: Single Center Randomized Clinical Trial of 14Fr Thal Tube versus 28Fr Tube Thoracostomy

Background

The traditional treatment of traumatic hemothorax (HTX) is large bore chest tubes ≥ 28 Fr. Recent evidence suggests that 14Fr pigtail catheters are as effective in drainage of HTX as larger chest tubes. This has not been shown in 14Fr Thal tubes, which carry an FDA indication for drainage of fluid. We performed a single center randomized controlled trial evaluating 14-Fr Thal chest tubes (14CT) to larger 28-Fr straight chest tubes (28CT). We hypothesized that 14CTs are non-inferior to 28CTs in the management of traumatic hemothorax. (NCT03167723)

Methods

A single center randomized controlled trial was performed at an ACS verified Level 1 trauma center comparing 14-Fr to 28-Fr chest tubes between May 2017-September 2021. The primary outcome was successful drainage of hemothorax without additional intervention. Secondary outcomes included duration of chest tube placement, hospital stay, numeric pain scores, hemodynamic changes associated with insertion, tube specific complications, and 90 day hospital readmission. Farrington-Manning approach was used for non-inferiority tests. Wilcoxon 2-samples test, or t test was used on continuous variables, and Pearson Chi square or Fisher exact test was used on categorical variables.

Results

99 patients were included in the randomized trial. In the 14CT cohort, there were 48 patients and 51 patients in the 28CT cohort. There were no differences in demographics or Injury Severity Score between groups. The primary outcome of successful drainage was similar between groups (91.7% 14CT vs 96.1% 28CT). Using a 15% non-inferiority margin resulted a p value of 0.036, and therefor 14Fr Thal tube is non-inferior to 28Fr Chest tube. No differences were identified in secondary outcomes.

Conclusion

14 Fr Thal tubes have similar efficacy in drainage of traumatic hemothorax when compared with 28Fr chest tubes with similar complication rates.