WE CARE FOR CHEST TUBES

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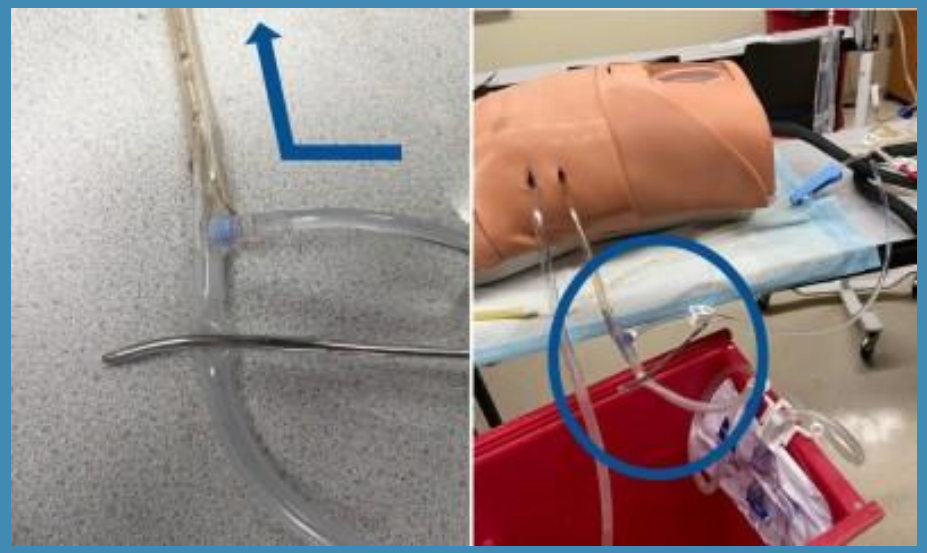

INTRODUCTION

Chest tubes are primarily used to drain abnormal air, blood, or pus that forms within the pleural cavity.

This study was performed on a total of 127 patients with a combined total of 236 chest tubes.

Different dressings were utilized in this study. These dressings include: dry gauze, Petroleum-impregnated gauze, transparent adhesive gauze, and finally patients with no dressing that were open to air.

INTRODUCTION

Nurses are responsible for the overview and care for chest tubes and the drainage system along with the integrity of the skin. This includes the dressing placed at the insertion site as well as care needed for any potential skin breakdown. Some differences between care provided to patients varied on frequency of dressing changes along with dressing type used and if dressing was present overall.

All dressing changes followed a standard procedure. For each dressing type, first the area around the insertion site was cleansed with swab sticks impregnated with 2% chlorhexidine gluconate and 70% isopropyl alcohol. For the gauze dressing, 4 × 4-inch (10 × 10 cm) dressing sponges were folded in half and placed above and below the chest tube or tubes and covered with two 4 × 4-inch (10 × 10 cm) pieces of gauze

PURPOSE

To determine the effectiveness of various dressing types and measure the outcomes involved with skin integrity, air leaks, patient-reported pain, and length of time placed. The secondary aim of the study was to assess various techniques and frequency used by Nurses in the Intensive Care Unit (ICU).

METHODS

Randomized controlled trial conducted in a midwestern health care facility

127 patients with 236 chest tubes

-114 patients in the cardiovascular intensive care unit (CVICU)

-6 patients in the surgical and trauma intensive care unit (STICU)

-7 patients in the medical intensive care unit (MICU)

Demographic

-African American Participants (3)

- White Participants (122)

- Hispanic (2)

METHODS

Participants were randomly assigned to one of the three dressing protocol groups:

1. Gauze and tape dressing changed once daily, assessed Daily

(41 participants)

2. Gauze and tape dressing changed every 3 days, assessed Daily

(44 participants)

3. Silicone Foam Dressing changed every 3 days, assessed Daily

(42 participants)

E. Cleaning Process

1. Each Dressing Type is cleansed with swab sticks impregnated with 2% Chlorhexidine Gluconate and 70% isopropyl alcohol.

METHODS

Criteria

- 18 years of age or older
- Placement of chest tube with the past 24 hours
-Known allergy to adhesives
-Air leak at a tube insertion

Exclusion Criteria

- If Known allergy to adhesives
- Air leak at tube insertion

RESULTS

Mean length of time for chest tube insertion was 4.5 days. Ranges were 1.2-10 days for gauze/daily group, 1.9-10 days for gauze/3 day group, and 1.6-10 days for the foam/3 day group.

The gauze/daily had significantly more dressing changes than the other two groups.

No difference in pain noted at the insertion site; however, dressing removal was significantly more painful in the gauze/daily group. Pain averages were 1.6 for gauze/daily, .4 in the gauze/3 day group, and .3 in the foam/ 3 day group.

RESULTS

Skin integrity near the site with no significant difference between the groups; however, day 9 for gauze/daily group had worse skin integrity under the dressing. The foam/3 day group had much more drainage but did not require more dressing changes.

There were no significant differences found for air leaks; total study had 2.4% of patients experience of dislodgement.

The nurses survey states that the nurses felt as if the silicone dressing maintained the best skin integrity. The gauze and tape was easier to apply but the silicone was easier to remove. The silicone dressing absorbed drainage better and was overall preferred over the other dressings

CONCLUSION

This study guides the best practice for insertion site dressings and the frequency of dressing changes to best protect skin integrity and minimize discomfort.

Silicone foam dressings were rated superior compared to the other two dressings with skin integrity and comfort. Although the foam/3 day group had more drainage, the dressings were managed equally with no difference in frequency of changes.

A reduced cost to the hospital in supplies due to reduced # of dressing changes/ nursing time.

CONCLUSION

Petroleum saturated gauze is no longer recommended for use due to it's association with loosening sutures and possible maceration of skin.

With daily dressing changes, there is a greater potential for impaired skin integrity, increased pain/discomfort, risk for tube dislodgement, and risk for air leak which can potentially lead to a residual pneumothorax.

The limitation to this study regarding ethnicity is that 96% of the patients were Caucasian.

QUIZ TIME

What frequency of dressing changes for chest tubes put patients at higher risk for impaired skin integrity and increased pain?

A - Daily

B – Every 2 days

C – Every 3 days

D – Once weekly

REFERENCES

Wood, M. D., Powers, J., & Rechter, J. L. (2019). Comparative Evaluation of Chest Tube Insertion Site Dressings: A Randomized Controlled Trial. *American Journal of Critical Care*, *28*(6), 415–423. https://doi.org/10.4037/ajcc2019645