

CASE STUDY

Optimal positioning for emergent needle thoracotomy: a cadaver-based study.

CATEGORISING

Kind

Research project not involving persons

Type

Research project on deceased persons

Subtype

BACKGROUND

Needle thoracotomy is an emergent procedure designed to relieve tension pneumothorax. The procedure often fails because the needle does not penetrate into the thoracic cavity. Advanced Trauma Life Support guidelines recommend placement in the second intercostal space, midclavicular line, using a 5-cm needle. This study was evaluated placement in the fifth intercostal space, midaxillary line, where tube thoracotomy is routinely performed.

METHODS

Twenty unpreserved adult cadavers were evaluated. A standard 14-gauge 5-cm needle was placed in both the fifth intercostal space at the midaxillary line and the traditional second intercostal space at the midclavicular line, in both the right and left chest walls. The needles were secured and thoracotomy was then performed to assess penetration into the pleural cavity. The rate of successful needle placement between fifth intercostal space at the midaxillary line, and the traditional second intercostal space at the midclavicular line on the right and left sites, was compared.

QUESTIONS OF THE CATEGORISER

Does the research project come under the scope of application of the Human Research Act?

Yes

BECAUSE

This project was based on a study protocol that defines the exact procedures to be used. It included a relatively large number of persons and was not based on individual cases ("method-driven search for generalizable knowledge", defined as research by HRA). Standard 14-gauge 5-cm needles were placed at different locations in the chest wall of unpreserved adult cadavers ("deceased persons") to compare the rate of successful needle placement. The procedure of successful needle placement was tested in dead persons and in relation to pneumothorax tension ("research concerning human diseases").

Is the research project a project involving living persons?

No

BECAUSE

Unpreserved adult cadavers ("deceased persons") were used in this research project.

Is the research project a project on deceased people?

Yes

BECAUSE

Unpreserved adult cadavers ("deceased persons") were used in this research project.