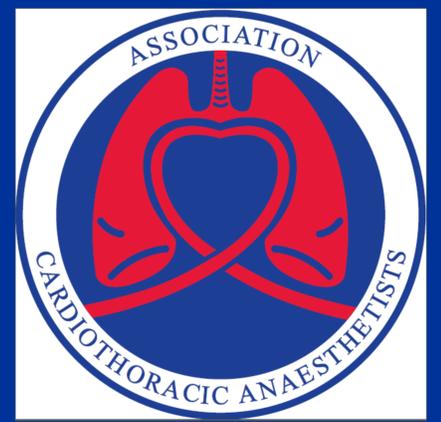


Critical Care After Lung Resection (CALoR): Proposal for an ACTA National Collaborative Audit 2015



Introduction

Over 8500 lung resections take place in the UK each year. A great deal of research has been carried out examining specific complications e.g. atrial fibrillation or lung injury, but comparatively little work has addressed the need for intensive care following lung resection.

Pilot data from our own institution, in addition to published reports from single and multicenter studies, indicate that 2.4-18% of patients undergoing lung resection require unplanned intensive care post-operatively. This suggests that between 204 and 1530 patients may be admitted (unplanned) to intensive care following lung resection surgery each year in the UK. Intensive care admission carries high mortality in this population and increases the burden on both patients and facilities, lengthening hospital stay and leading to increased healthcare costs.

Little is known about this population:

Who are these patients? How many patients are there? Why do they get admitted to intensive care? What is their prognosis? Crucially, what can we do to reduce the need for post-operative intensive care?

Aims

1. Characterise the population

- Provide an up to date estimate of the incidence of post-operative intensive care admission in the UK
- Demographics – *Who is admitted to intensive care?*
- Aetiology – *Why do patients require intensive care?*

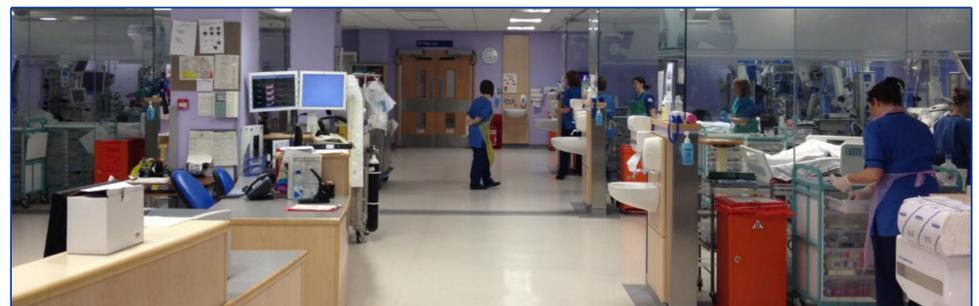
2. Assess the burden of disease

- Critical care and hospital stay
- Resource use – ITU interventions and duration (ventilation / CVVH / tracheostomy / others)
- Mortality

3. Specifically investigate the influence of anaesthetic and surgical technique

For example:

- Thoracic epidural vs. paravertebral blockade
- Video assisted thoracoscopic vs. open technique
- Volatile vs. total intravenous anaesthesia
- Others! We propose to survey the membership to ask what outcomes / techniques individuals perceive to be important (and can be realistically captured).



Need for intensive care after lung resection: *Poor prognosis, but how poor?*

Methods

A multicentre retrospective audit of patients admitted to intensive care following lung resection in participating centres, with all thoracic surgical centres invited to participate. It is anticipated that this will take the form of a numerator / denominator study in the style of the Royal College of Anaesthetists' successful National Audit Projects.

Numerator

All patients admitted unplanned to intensive care following lung resection in a prescribed (retrospective) time period.

Indicative data collection: Demographics, anaesthetic and surgical techniques, reason for admission, outcomes (ICU and hospital stay, duration of ventilation / renal support, mortality).

Denominator

A control group allowing the distribution of patient demographics, risk factors, surgical and anaesthetic techniques to be defined in the target population. Source of this control group will depend on data availability, but options include:

- All patients undergoing lung resection in each centre during the defined period (as in the pilot study).
- A randomly selected group of patients undergoing lung resection in each centre during the defined period (allowing for example 2:1 / 3:1 matching).
- All patients undergoing lung resection in each centre during a shorter time period, believed to be representative of the study period, from which denominator data may be extrapolated.

What now?

- 1. Pilot data:** CALoR-1, a single centre pilot study is complete.
- 2. Invitation to participate:** All thoracic surgical centres will be contacted via ACTA linkmen in early April 2015.
- 3. Consultation:** All interested parties will subsequently be surveyed in order to establish what data is available and allow engagement in defining endpoints. This is ACTA's audit – what do we want to know?

Get involved!

Audit leads: Dr Ben Shelley, Dr Philip McCall, Dr Alistair Macfie

Contact: b.shelley@clinmed.gla.ac.uk

