

Are the sympathetic sensorimotor changes induced by thoracic epidural anaesthesia such that mobilization is possible?

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Registration date 29/09/2006	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 29/04/2015	Condition category Surgery	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

Dr S DeSilva

Contact details

Department of Anaesthesia
The Cardiothoracic Centre
Thomas Drive
Liverpool
United Kingdom
L14 3PE

Additional identifiers

Protocol serial number

N0054174157

Study information

Scientific Title

Are the sympathetic sensorimotor changes induced by thoracic epidural anaesthesia such that mobilization is possible?

Study objectives

To determine if the degree of haemodynamic and sensorimotor changes caused by a thoracic epidural infusion can allow early mobilization in patients having thoracotomies and if an opiate only epidural facilitates early mobilization. To determine if patients having thoracic epidural analgesia for thoracotomies can be mobilized early in the post operative period. The effect of the thoracic epidural on blood pressure, sensation, strength, co ordination, vibration sense and proprioception (the ability to sense the position of a limb in space). Scientific Basis: Patients having thoracotomies usually receive thoracic epidural analgesia. A local anaesthetic and opiate drug are usually used in combination to provide pain relief. The presence of a thoracic epidural especially the local anaesthetic component has been thought to produce weakness of the limbs and sensory changes that prevent patients from being mobilized. However mobilization of these patients has many benefits in terms of their respiratory function and overall recovery. There has been no previous work to show that early mobilization is possible in the presence of a functioning epidural in our group of patients. We hope to demonstrate that using an opiate only epidural will make early mobilization a possibility.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Not provided at time of registration

Study design

Randomised controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Surgery: Thoracotomy

Interventions

A total of 80 patients who have been listed for elective thoracotomy for whom epidural analgesia has been agreed will be invited to participate in the study on the day before their operation. The epidural will be sited before the operation and following surgery the functioning of the epidural will be confirmed. A combination of local anaesthetic and opiate (morphine like drug) will be administered via the epidural and the patient sent to the ward to receive their routine postoperative care.

They will be visited at 24, 48 and 72 hours during the postoperative period. At the 24 hour visit the epidural solution will be changed, so that the patient receives one of the previously coded syringes. The investigators will have been blinded as to the contents of the syringes. The patients will either receive a combination of local anaesthetic and opiate or an opiate alone. A series of measurements will be obtained during these visits, which are designed to elicit if the patient is able to mobilize safely. These will include measurement of blood pressure in the sitting and standing position, assessment of strength in the legs and arms. Different modalities of sensation will be tested including coordination and proprioception (the ability to sense the position of a limb in space). Pain will be assessed using the visual analogue scale. The subjects will then be asked if they experience any symptoms like headache, nausea, dizziness or blurring

of vision. If they are found to fit the criteria then patients will be invited to mobilize with the help of assistants. Patients will only be asked to mobilize at the 48 hour and 72 hours visits.
Date: 08/08/2005 Reference: 05/Q1501/123 Online Form
NHS REC Application Form – Version 4.1 4 AB/38774/1

Intervention Type

Procedure/Surgery

Phase

Not Specified

Primary outcome(s)

Demographic data will be recorded: age, height, weight, hand dominance, ASA classification, preoperative medication, surgical procedure, blood loss and level of surgical incision. Primary outcome: The ability to walk with a thoracic epidural.

Key secondary outcome(s)

The effect of thoracic epidural blockade on each of the following measurements-systolic, diastolic, mean blood pressure, heart rate change when moving from the sitting to the upright position, leg motor power, dominant side hand grip strength, proprioception, vibration sense, and co ordination.

Completion date

30/09/2006

Eligibility**Key inclusion criteria**

All adult patients having elective thoracotomy under general anaesthesia with epidural analgesia for post operative pain relief at the Cardiothoracic Centre, Liverpool.

The statistical calculations were done based on a similar study looking at epidural analgesia in labor in an ambulatory patient (Anesth Analg 1993;77:919-24). This paper suggests a failure to ambulate in 10% of the patients in the fentanyl group. A difference of 25% between this and the fentanyl/bupivacaine group would be significant clinically. With an alpha error of 5% and a power of 89% then n=80, which is 40 patients in each group.

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Key exclusion criteria

1. Patients unable to mobilize preoperatively due to pre existing neurological, cardiorespiratory or locomotor disease
2. Those with known autonomic nervous system dysfunction, those on beta blockers, those with moderate severe angina (Canadian Cardiovascular Society Class 3 or 4), those with diabetes, those with known allergy to bupivacaine/ fentanyl
3. Routine contraindications to epidural catheter placement will apply

Date of first enrolment

01/09/2005

Date of final enrolment

30/09/2006

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

The Cardiothoracic Centre

Liverpool

United Kingdom

L14 3PE

Sponsor information

Organisation

Record Provided by the NHSTCT Register - 2006 Update - Department of Health

Funder(s)

Funder type

Government

Funder Name

The Cardiothoracic Centre Liverpool NHS Trust (UK), NHS R&D Support Funding

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration