

Catheter wound infusion of local anaesthetic is an effective alternative to Epidural analgesia in vascular patients undergoing lower limb amputations:

Background:

Epidural analgesia is often considered to be the gold standard for postoperative analgesia following lower limb amputation.

However, contra-indications including coagulopathy, anti-platelet agents and sepsis are common.

Where Epidural analgesia is contraindicated, systemic analgesia is often used alone.

The addition of Catheter Wound Infusion of local anaesthetic (CWI) may provide more effective analgesia.

At Doncaster Royal Infirmary wound catheters are placed intra-operatively where Epidural analgesia is contraindicated.

CWI patients received continuous infusion of 0.25% Bupivacaine at 5ml/hr for 3 days post-operatively along with systemic analgesics.

We have compared the efficacy of combined CWI and systemic analgesia with the efficacy of epidural analgesia.

Methods:

All patients undergoing lower limb amputation between August 2011 and November 2013 at Doncaster Royal Infirmary were followed up by the Acute Pain Team.

A proforma was used to collate daily pain scores (4 point scale, 0 - 3), adjunctive analgesic use and side effects.

The data were collated and comparison made with data for patients receiving patient controlled epidural analgesia (0.1% Bupivacaine with Fentanyl 2 micrograms/ml).

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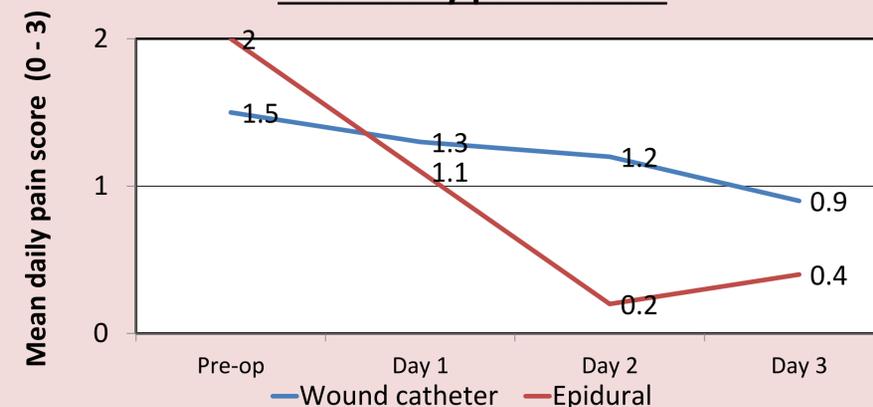
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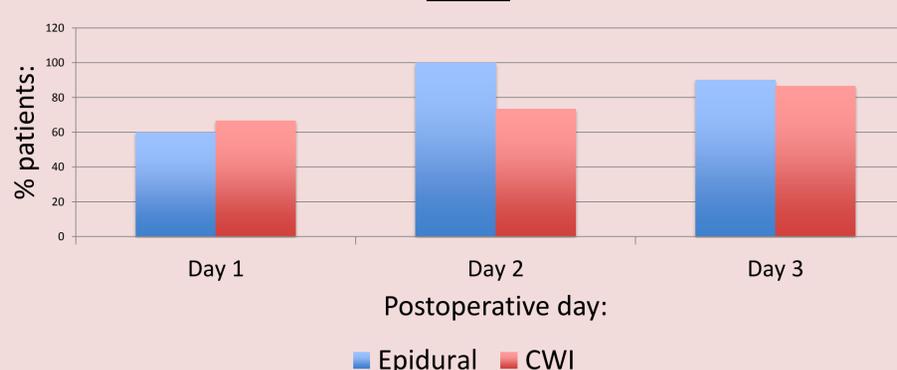
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Mean daily pain scores:



Percentage of patients with no pain or mild pain:



References:

1. Nikoljassen *et al.* A Randomized Study of the Effects of Gabapentin on Postamputation Pain. *Anesthesiology* 2006; 105:1008-15.
2. Karanicolas *et al.* Optimised perioperative analgesia reduces chronic phantom limb pain intensity, prevalence, and frequency: a prospective, randomized, clinical trial. *Anesthesiology* 2011 May;114:1144-54.

Results:

Sufficient data were available for the inclusion of 15 CWI patients (5 above knee, 8 below knee and 2 through knee amputations).

Comparison was made with data for 10 epidural patients (6 above knee and 4 below knee amputations).

Mean daily post-operative pain scores were higher in the CWI group.

- 1.3 vs. 1.1 (Day 1), 1.2 vs. 0.2 (Day 2), 0.9 vs. 0.4 (Day3).

However, the proportions of patients with mild or no post-operative pain were comparable for the two patient groups.

- (66% vs 60% (Day 1), 73% vs. 100% (Day 2), 86% vs. 90% (Day 3).

20% of CWI patients had severe pain on postoperative day 1 and 6% on day 2 compared with none in the epidural group.

There were no documented complications in either group.

Discussion:

Pain following limb amputation is common, but difficult to treat.¹

Optimal analgesia may prevent the occurrence of the adverse physiological consequences of severe pain, and reduce the incidence of chronic pain syndromes following amputation.²

Where epidural analgesia is contraindicated, CWI provides a valuable adjunct to systemically acting analgesics.

Whilst epidural analgesia remains the gold standard in this context, supplementation of systemic analgesia with CWI of local anaesthetic may be comparable in many respects.

Catheter Wound Infusion of local anaesthetic with supplementary systemic analgesia is an effective postoperative pain management option where contraindications to epidural analgesia are present.