

Case Report

The Effect of Post-Operative Infiltration of Local Anaesthetic Agents into Post –Fracture Neck of Femur Wounds on Patient Stay and Mobilization

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Abstract

Fracture neck of femur is a common orthopaedic condition which is increasing in incidence in the whole world with the aging of the populations. In this study done in Sri Lanka and the UK over a period of three years a total of 256 fracture neck of femur patients were observed for post-operative duration of stay, pain scoring and date of first mobilization. This study was done prospectively from January 2010 to January 2013. A retrospective analysis of 256 patients who had operations for fracture neck of femur from 2007 to 2010 who did not receive local anaesthetic infiltration into the surgical wound were done to compare the results between the two groups.

The mean stay in hospital for the group of patients who had local anaesthetics injected was 05 days where as for the group of patients who did not have such injections was 06 days. At a p value of 0.05 there was no statistical significance noted between the two groups. The post-operative pain score of 0-10 on the first post-operative day, the group who had local infiltration had a mean score of 04 where as the group that did not have infiltration had a mean score of 06. Once again this was not statistically significant at a p value of 0.05. At the 04th post-operative day both groups had a mean pain score of 04.

The group that received local infiltration of the wound were able to mobilize from bed to chair on a mean of 1.5 days post-operatively while the group that did not receive local infiltration mobilized from bed to chair on a mean of 2 days which was not statistically significant.

There was no statistically significant difference between injecting local anaesthesia to the operative incision site in patients who have had surgical operations for fracture neck of femur. The pain due to the incision itself played a minor role in the total pain profile and there was no statistical significance of eliminating the wound pain in these patients.

INTRODUCTION

Fracture neck of femur is a common orthopaedic condition in the elderly populations of developing as well as the developed world. With the world population aging fast this is a huge burden on the health care systems all over the globe. In this study we wanted to find out whether the infiltration of local anaesthetic agents into the operative wound of patients who had their hip fractures surgically operated on will have an effect on the pain

score of the post operative period: overall hospital stay and on the ability to mobilize early.

We did this in as a prospective study involving a tertiary care centre in Sri Lanka where 256 patients received local anaesthetic infiltration to the operative wound for pain relief as a local protocol. We also combined a retrospective analysis of a similar number of patients who had their hips operated on for fracture neck of femurs in the UK where such practice is not part of the protocol of treating fracture neck of femurs.

METHODS

This study was conducted with the objective of identifying whether infiltration of local anaesthetic into the operative wound in patients who had surgical operations for fracture neck of femur would affect post operative duration of hospital stay, pain score and early mobilization.

The study was done as a prospective study for the group who routinely received local anaesthetic injections as per local protocol on a developing country and as a retrospective study where patients don't routinely receive such infiltration, in a developed country. Patients who had fractures of the neck of the femur of 65 years and above were included in the prospective as well as in the retrospective groups. Both intra-capsular as well as extra-capsular fractures were included. Pathological fractures due to bone tumours were excluded from the study. A total of 256 patients were questioned and observations were recorded by trained observers using direct observation and a pre-validated questionnaire to obtain information on post-operative pain scores in the prospective group. A retrospective analysis of 256 patients who had hip operations for fracture neck of femur were retrospectively analysed using clinical records and the same information was extracted. Patients with incomplete clinical records were not included in the study, from the retrospective group.

The retrospective group was closely matched with the prospective group to reduce errors due to confounding variables. The authors were mindful about the prospective group being of Asian origin and the retrospective group being of Caucasian origin.

RESULTS

In the retrospective group the average age was 78 years and in the prospective group the average age was 76 years. In both groups 79% were females with fracture neck of femurs. In both groups nearly 68% were intra-capsular fractures.

The average duration of hospital stay of the two groups were 05 days for the prospective group and the retrospective group showed a mean of 06 days which was not statistically significant at a p value of 0.05.

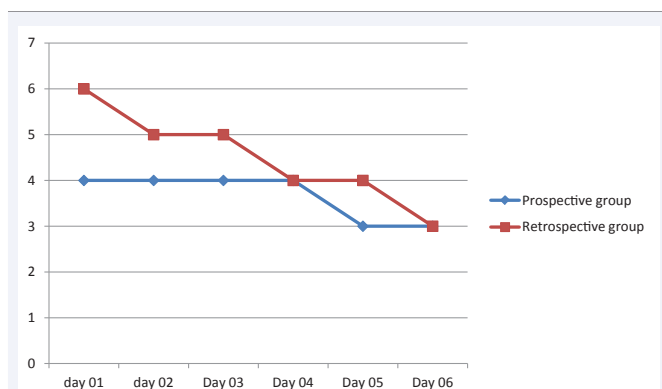


Chart 1 Pain score of the two groups over post-operative days.

Table 1: Gender Distribution.

Males	22% Prospective group	21% Retrospective group
Females	78% Prospective group	79% Retrospective group

Table 2: Age Distribution.

Group	Males/yrs	Females/yrs
Prospective	81	76
Retrospective	80	77

The post-operative pain score of 0-10 on the first post-operative day, the group who had local infiltration had a mean score of 04 where as the group that did not have infiltration had a mean score of 06. Once again this was not statistically significant at a p value of 0.05. At the 04th post-operative day both groups had a mean pain score of 04.

The group that received local infiltration of the wound were able to mobilize from bed to chair on a mean of 1.5 days post-operatively while the group that did not receive local infiltration mobilized from bed to chair on a mean of 2 days which was not statistically significant.

We also looked at wound complications of both groups and found that 07 patients had wound dehiscence in the prospective group and 09 patients had wound dehiscence in the retrospective group which was once again statistically not significant. Infection of wounds confirmed by bacterial swab culture was nearly same in percentage of both groups.

DISCUSSION

Fracture neck of femur is a common orthopaedic condition in the elderly populations of developing as well as the developed world. With the world population aging fast this is a huge burden on the health care systems all over the globe. In this study we wanted to find out whether the infiltration of local anaesthetic agents into the operative wound of patients who had their hip fractures surgically operated on will have an effect on the pain score of the post operative period: overall hospital stay and on the ability to mobilize early.

We did this in as a prospective study involving a tertiary care centre in Sri Lanka where 256 patients received local anaesthetic infiltration to the operative wound for pain relief as a local protocol. We also combined a retrospective analysis of a similar number of patients who had their hips operated on for fracture neck of femurs in the UK where such practice is not part of the protocol of treating fracture neck of femurs.

Our study was unique due to the fact that it was carried out on patient who had operations following hip fractures. Many publications have been found in the literature about local anaesthetic infiltration following total hip and knee arthroplasty.

A study done in Denmark showed that 40 patients who underwent total hip replacement were randomized into two groups in this double-blinded study. They received wound infiltration at the end of surgery. The other group received a placebo. A significant reduction in the hospital stay and a marked early mobilization rate was noted [1].

Operative and postoperative wound infiltration reduces pain and the requirement for analgesics after hip replacement¹. Our study however failed to show a statistically significant difference in reducing the pain as well as in the early mobilization and reduction of the hospital stay in patients with hip fractures who had operative procedures done on them.

A second randomised study of 40 patients where intra-articular analgesia with multimodal drugs demonstrated that infiltration provided superior pain relief and reduced morphine consumption compared with continuous epidural after TKA [2]. A pub med search failed to demonstrate any articles giving information on local wound infiltration following operations for fracture neck of femurs.

REFERENCES

1. Andersen LJ, Poulsen T, Krogh B, Nielsen T. Postoperative analgesia in total hip arthroplasty: A randomized double-blinded, placebo-controlled study on peroperative and postoperative ropivacaine, ketorolac, and adrenaline wound infiltration. *Acta Orthop.* 2007; 78: 187-192.
2. Andersen KV, Bak M, Christensen BV, Harazuk J, Pedersen NA, Søballe K, et al. A randomized, controlled trial comparing local infiltration analgesia with epidural infusion for total knee arthroplasty. *Acta Orthop.* 2010; 80: 606-610.

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