



HIP FRACTURE; COMPARISON OF MEAN PAIN SCORE BETWEEN SKIN TRACTION VERSUS WITHOUT SKIN TRACTION IN CASES PRESENTING

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ABSTRACT... Objectives: To compare mean pain score between skin traction versus without skin traction in cases presenting with hip fracture. **Study Design:** Multi-randomized controlled study. **Setting:** Department of Orthopaedics, Chandka Medical College Hospital Larkana and Qazi Hussain Ahmad Medical Complex, Nowshera. **Period:** 1st October 2016 to 31st March 2017. **Materials and Methods:** A total of 100 cases (50 in two groups) between 18-60 years of age including both genders presenting with unilateral femur fracture within 72 hours of injury were enrolled in this study. They were divided in two groups i.e. study and control group, study group was allotted to the cases undergoing traction while control was those without using skin traction. Intramuscular diclofenac sodium injection (75 gm) was used in all participants and followed up for two tablets of paracetamol (500 mg) on 8 hourly basis. Visual analogue scale to record pain score, 0 was no pain and 10 was the severe pain, it was recorded at 24 hours of application of traction and second measurement was recorded just few minutes before the surgery is done. **Results:** In this study, mean age was calculated as 48.74 ± 9.12 years, age range was 18-60 years. Male participants were in majority by calculating 64% (n=32) in Study and 58% (n=29) in control group while female cases were 36% (n=18) in cases and 42% (n=21) in control group. Mean pain score at 24 hours of traction in study and control group was recorded as 4.60 ± 0.70 in study group and 5.30 ± 0.82 in control group ($P = 0.0553$), shows a significant difference. **Conclusion:** Mean pain score is significantly reduced during first 24 hours of application of skin traction as compared to those without it in cases with hip fractures, however, it has no significant effect on pain after 24 hours of application.

Key words: Hip Fractures, Skin Traction, Pain Score.

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INTRODUCTION

In elderly, hip fracture is an important and controversial Orthopaedic issue, it may cause high rate of morbidity and mortality.¹ The annual rate of mortality due to hip fracture is recorded between 11-34%.² This rate improves with the increase in age of the patients.³ Data shows possibility of hip fracture increases after the age of 50 years while it becomes double with each decade.⁴ However, young population is presented with hip fracture due to trauma due to fall from height or road traffic accidents.⁵

High grade local pain in pre-operative period is recorded, while external rotation of the affected limb or shortening is also observed.⁶ However, pain management during this period is important and challenging for orthopaedicians.⁷ Skin traction

is considered to be an effective method of relief in pain and has been used in various patients presenting with hip fracture.⁸⁻⁹ For skin traction, adhesive tape with bandage on limb is placed on a traction sled with the help of appropriate weight hung from it. Another method for foam boot includes a foam boot which is strapped around the leg side and it is also placed on a traction sled by using an appropriate weight. For skeletal traction, a metal pin is passed through proximal distal femur or tibia by using local anesthesia while ropes and weights are used on end of the pin.

Contrary to this, some of the trials reveal that use of skin traction has no advantage for controlling in pain while use of additional analgesic agents is inevitable.¹⁰⁻¹¹

We decided to compare the effect of traction with those patients without traction in terms of mean pain in preoperative period of hip fracture, as the local data is lacking, our findings may prove guidelines to the orthopaedicians while managing pain in pre-operative period.

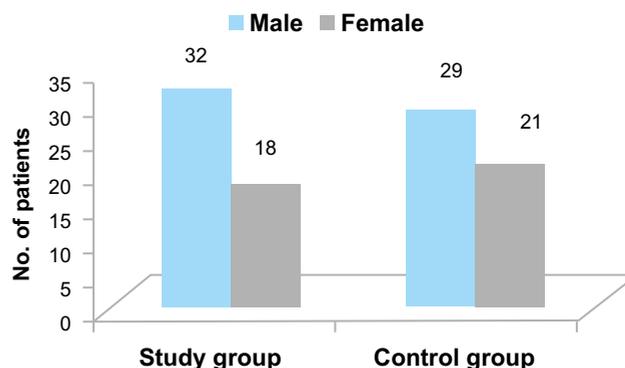
MATERIAL AND METHODS

This multi-randomized controlled study was carried out at Department of Orthopaedics, Chandka Medical College Hospital Larkana and Qazi Hussain Ahmad Medical Complex, Nowshera from 1st October 2016 to 31st March 2017. A total of 100 cases (50 in two groups) between 18-60 years of age including both genders presenting with unilateral femur fracture within 72 hours of injury were enrolled in this study. Patients presenting with leg ulcers, polytrauma, head injury, having vascular or neurological compromise in limbs and those with acute confusional state of dementia were excluded from the study. We divided our cases in two groups i.e. study and control group, study group was allotted to the cases undergoing traction while control was those without using skin traction. Intramuscular Diclofenac sodium injection (75 gm) was used in all participants and followed up for two tablets of paracetamol (500 mg) on 8 hourly basis. We used visual analogue scale to record pain score, 0 was no pain and 10 was the severe pain, it was recorded at 24 hours of application of traction and second measurement was recorded just few minutes before the surgery is done. Required statistical tests like 'student t test' were applied to compare any significant difference.

RESULTS

In this study, mean age was calculated as 48.74 ± 9.12 years, age range was 18-60 years. Male participants were in majority by calculating 64% ($n=32$) in Study and 58% ($n=29$) in control group while female cases were 36% ($n=18$) in cases and 42% ($n=21$) in control group (Figure-1). Mean pain score at 24 hours of traction in study and control group was recorded as 4.60 ± 0.70 in study group and 5.30 ± 0.82 in control group, p value was calculated as (0.0553), shows a significant difference. These findings just few minutes before surgery were recorded as

6.58 ± 0.67 in study group and 6.67 ± 0.78 , p value 0.78.



DISCUSSION

The main objective of this study was to evaluate any difference in pain during pre-operative period between skin traction and without use of traction in patients presenting with hip fracture.

A previous study by Sayg and colleagues¹² compared traction and without traction, they recorded mean pain 6.6 ± 1.14 in traction group while 6.85 ± 1.29 in those without traction, these findings were recorded just 15 minutes before the surgery, they calculated it as a significant difference.

Madni et al¹³ demonstrated that there is no role of skin traction while reducing pain in cases with hip fractures during pre-operative period, they further recommended not to use this technique in routine, these findings do not support our results.

Rasi and others¹⁴ investigated the effects of skin traction in cases with intertrochanteric fractures in terms of mean pain. They recorded a significant reduced pain in skin traction, but it was recorded at first day after the application of traction, mean pain score in traction group was 2.7 ± 0.8 and without traction 3.3 ± 0.9 ; p value was 0.042, they did not record a significant difference after first day of application of skin traction, on the other hand, there was no difference in analgesic requirement between the two groups, however, this study support our results and give the opportunity, if these cases are managed in emergency department and fracture is reduced on first day of application of skin traction, it is more useful. They

also recommended the use of skin traction in cases presenting with intertrochanteric fractures.

Hussain and others¹⁵ concluded that there is no effect on skin traction for reduction of pain during pre-operative period in cases with hip fractures. Another study revealed that preoperative traction has no additional benefit in semi-urgent surgery.¹⁰

Similar to the other trials, this study also including some limitations, one of those is low numbers of patients and a single centre study. In coming trials, more cases should be attended. Additionally, there could be some other trials evaluating the effect of both skin and bone traction, which was not in this study. However, we are of the view that if we have an opportunity to reduce the fracture in first 24 hours, we should consider and use skin traction for reducing pre-operative pain.

CONCLUSION

We concluded that mean pain score is significantly reduced during first 24 hours of application of skin traction as compared to those without it in cases with hip fractures, however, it has no significant effect on pain after 24 hours of application.

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PREVIOUS RELATED STUDY

Hafiz Muhammad Rafique, Sardar Ali, Azeem. FRAGILITY HIP FRACTURES(Original) Prof Med Jour 16(2) 298-301 Apr, May, Jun, 2009.

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Stop talking about the problem and start thinking about the solution.

– Unknown –

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AUTHORSHIP AND CONTRIBUTION DECLARATION

| Sr. # | Author-s Full Name | Contribution to the paper | Author=s Signature |
|-------|--------------------|--|---|
| 1 | Abdul Malik Shaikh | Writing of manuscript and compiling results. |  |
| 2 | M. Bakhsh Shahwani | Data collection & writing of manuscript. |  |
| 3 | Mohammad Ishaq | Statistical analysis & guidance in writing the manuscript. |  |