Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: www.saspublishers.com

OPEN ACCESS

Traumatology-Orthopedics

Interest of Intra-Focal Anesthesia Interest in the Charge Engages of Fractures of the Distal Radius About 27 Cases

El Mehdi Sabri*, Reda Fekhaoui, Mouad Beqqali, M.Boufettal, R.Bassir, M.Kharmaz, Molamrani, M.Mahfoud, A.Elbardouni, Ms.Berrada

Traumatology-Orthopedics department, University Hospital Ibn Sina, Rabat Morocco

***Corresponding author:** El Mehdi Sabri
| **Received:** 01.03.2019 | **Accepted:** 05.03.2019 | **Published:** 30.03.2019
DOI: 10.36347/sjams.2019.v07i03.097

Abstract **Original Research Article**

Fractures of the distal radius remain a therapeutic challenge in adults because they are the most common fractures of the upper extremity, observed at any age mainly in women over 60 years. The purpose of this study is to evaluate the intra-focal analgesic effects for the closed reduction of a fracture of the distal radius. A prospective study was conducted in 27 patients, of both sexes who had distal radius fracture from January to April 2016. After written informed consent, the reduction of the fracture was performed after injection of lidocaine 2 % at the fracture site. The pain score was compared with EVA before, during and after handling. The time required for the presentation to the emergency department to the reduction and the evacuation of the hospital was also recorded. The mean age 65.1 years, 19 women and 8 men, the reduction of time after admission to the emergency department was on average 2.33 hours, the residual pain during the reduction and containment was average, according to the scale EVA, 2.77. At 3 months of decline, it was obtained "good" or "excellent" functional outcome in 81% of cases according to the functional score Herzberg. No systemic complications or local infection was found.
Keywords: Distal radius fracture – orthopedic reduction- intra-focal anesthesia.

INTRODUCTION

Fractures of the distal radius remain a therapeutic challenge in adults because it is the most common upper extremity fractures observed at any age mainly in women over 60 years [1]. It usually occurs due to minor fall severe trauma [8,9]. Various methods are used to reduce pain during closed reduction of the fracture as a brachial plexus block, intravenous regional anesthesia, general anesthesia, sedation and anesthesia intra-focal. Each of these methods to some advantages and disadvantages [7]. The purpose of this study is to evaluate the result of the intra-focal anesthesia for closed reduction of a fracture of the distal radius.

MATERIALS AND METHODS

We conducted from January to April 2016, a prospective, descriptive and analytical study of closed reduction of displaced fractures of the distal radius in intra-focal anesthesia. The effectiveness of the anesthetic technique and the evolution of the fracture were analyzed.

A pre-anesthetic evaluation was done in all patients in the study. Indoor déchoquage of emergencies, A suitable intravenous line was obtained and the connected monitor in several parts for the continuous monitoring of the pulse rate (PR), respiratory rate (RR), blood pressure (BP) and oxygen saturation (SpO2). Following proper sterilization of the affected part, the hematoma was confirmed by the aspiration of 1-2ml old hematoma blood. 10 ml of 2% lidocaine was injected into the hematoma at the dorsal side of the wrist and also in the periosteum adjacent aseptically. The reduction of the fracture was allowed 10-15 minutes after injection of the drug. The immobilization was done following the reduction by a plaster cuff (Fig 1-2). Patients did not receive any other pain reliever before the procedure. The pain score VAS was recorded before, during and 10 minutes after the reduction of the fracture. Total time of presentation to the emergency department to the reduction and hospital discharge after fracture reduction was recorded.

Fig-1: X-ray showing a fracture of the distal radius with posterior displacement

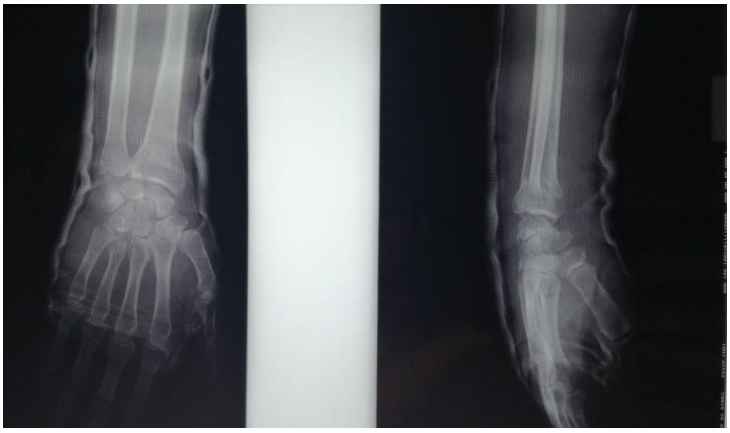

Fig-2: Control radiograph after reduction in intra-focal anesthesia

RESULTS

Twenty-seven patients, 19 women and 8 men, were recruited. The fracture types Pouteaux-colls adhesive accounted for 71% of cases. The reduction of time after admission to the emergency department was on average 2.33 hours, the residual pain during the reduction and containment was average, according to the VAS scale of 2.77. The VAS score 10 minutes before the reduction was 7.68, while the reduction was 0.94 and 10 minutes after the recorded était0,2 reduction. At 3 months of decline, it was obtained "good" or "excellent" functional outcome in 81% of cases according to the functional score Herzberg. No systemic complications or local infection was found.

DISCUSSION

The principle consists in the injection of 10 to 15 ml of 2% Lidocaine. The needle must be entered by the radial edge and extended transversely on the rear side of the fracture and withdrawn while injecting slowly. The procedure is repeated on the front through the same door, the periosteum of the focus of the fracture is well anesthetized. After a waiting period of 10 to 15 min, the reduction was initiated. Pre-pain, intraoperative and postoperative was assessed by visual analog scale [1-3]. A radiograph was performed just after the reduction and subsequent one, three and six weeks. Our study has established a risk/benefit ratio favorable to the AIF in the initial management of the displaced distal radius fractures.

Singh *et al*. [4] made a comparative study of intra-focal anesthesia and conventional sedation in 1992 and found that the pain score in the intra-focal anesthesia was significantly lower compared to the sedation group [7]. They compared the results of brachial plexus block and intra-focal anesthesia for the reduction; he found no difference in pain relief between the study groups. Funk [7] in a comparative study service at reducing the gap between general anesthesia and IV intra-focal anesthesia found that the EVA in the

general anesthesia group was null and anesthesia intra-focal 3.7. Kendal *et al.* [5] have studied anesthesia intra-focal in 1995 The increase in costs and time taken for general anesthesia compared to the intra-focal anesthesia for reduction of distal radius makes the intra-focal anesthesia most popular.

In our study, we found a significant reduction in mean time from admission to the reduction of the fracture and the hospital discharge compared to other methods of anesthesia; this is similar to the study of Funk. Usually, another method of anesthesia requires an operating theater room, an anesthesia machine, an oxygen source, fasting protocol of at least 6 hours and the monitoring, which is time consuming and expensive. Intra-focal anesthesia to reduce the fracture of the distal radius can be done in shake-room emergency department itself. And is useful in peripheral hospitals or availability of the operating room and anesthesia personnel are very limited.

During anesthesia intra-focal infiltration, the converted closed fracture may open fractures giving way for the entry of micro-organisms causing the infection [8]. However, in our study, we did not witness complication, which could be because of strict aseptic protocol followed.

CONCLUSION

The technique of intra-focal anesthesia is quick to implement, as other techniques require a heavier technical platform and more specialized staff, so it can greatly reduce the cost and time management of fractures of the distal radius in the orthopedic treatment.

REFERENCES

1. Browner BD, Jupiter JB, Levine AM. Skeletal Trauma (2 edn). WB Saunders, Philadelphiua.1998;1383-1384.
2. Burke FD. Glues's fractures conservative treatment. In Barton N (Eds.), Fractures of the hand and wrist. Edinburgh: Churchill Livingstone.1988; 267-275.
3. Rockwood CA, Green DP, Bucholz RW (1996) Fractures in Adults (14thedn), Lippincott-Raven, Philadephia.1996;769-770.
4. Singh GK, Manglik RK, Lakhtakia PK. A comparison of haematoma block and intravenous sedation. Online Curr Clin Trials. 1992;1.
5. Kendall JM, Allen PE, Mc Cabe SE. A tide of change in the management of an old fracture?. Emergency Medicine Journal. 1995 Sep 1;12(3):187-8.
6. Kendall JM, Allen P, P Younge, Meek SM, McCabe SE. Hematoma block Bbiers gold block for fracture reduction Glues in the accident and emergency department-which is best? Accid J Emerg Med.1997; 14 (6): 352- 356.
7. Furia JP, Alioto RJ, Marquardt JD. The efficacy and safety of the hematoma block for fracture reduction in closed, isolated fractures. Orthopedics. 1997 May 1;20(5):423-6.
8. Johnson PQ, Noffsinger MA. Hematoma block of distal forearm fractures. Is it safe?. Orthopaedic review. 1991 Nov;20(11):977-9.