Short Communication

A retrospective study assessing different techniques for Suprascapular Nerve Block for chronic shoulder pain

Abstract

Shoulder pain is a common complaint associated with significant pain and disability. Chronic shoulder pain is common cause of functional disability in the community. A supra scapular nerve block is a safe and effective technique for treatment of both acute and chronic shoulder pain, resulting from inflammatory and degenerative disorders. It can be done using a number of different techniques including but not limited to landmark technique, USG guided, X-ray guided and CT guided and PRF.

Methods: We did a retrospective study looking at efficacy of supra-scapular nerve block done in our centre over the last 2 years using different techniques. We audited a total of 80 procedures over two years. We looked at effective pain relief and any potential complications over 3- 6 months.

Result and conclusion: This was a retrospective study looking at a number of patients over 2 years having had multiple procedures. Because of the nature and the limitations of an audit, it was not possible to suggest that any particular technique is superior over the other. We need to do at prospective study with better randomization, follow up and more specific disability and pain scoring tools like shoulder pain and disability index (SPADI) and VAS scoring systems.

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Introduction

Shoulder pain is a common complaint associated with significant pain and disability.[1] Conditions leading to shoulder pain include degenerative diseases of the gleno-humeral and acromio-clavicular joints, entrapment injuries in sports, trauma and shoulder dislocations, rheumatoid arthritis and other arthropathies. The safety and efficacy of suprascapular nerve (SSN) block with local anesthetics alone and with steroids in treating chronic shoulder pain and improving disability and range of motion is well documented.[2-4] Shoulder pain is a common complaint associated with significant pain and disability. Chronic shoulder pain is common cause of functional disability in the community. There are many conservative treatments used in managing this problem, including physiotherapy, non-steroidal anti-inflammatory drugs (NSAIDs) and intra-articular corticosteroid injections. However, evidence of their efficacy is limited.[1]

A supra scapular nerve block is a safe and effective technique for treatment of both acute and chronic shoulder pain, resulting from inflammatory and degenerative disorders. However, supra-scapular nerve block using corticosteroids have limited duration of action2,3,4..It can be done using a number of different techniques including but not limited to landmark technique, USG guided, X-ray guided and CT guided. Pulsed mode radiofrequency (PRF) lesioning is a non-neurolytic lesioning method for pain relief and can relieve pain without evidence of neural damage. Some preliminary reports support its long-term efficacy in pain relief.[5-7]

Methods

We did this retrospective study looking at efficacy of supra-scapular nerve block done in our center over the last 2 years using different techniques. We audited a total of 80 procedures over two years. All the patients in our study were over 18 years of age. Many of these patients were on oral pain medications prior to having these injections. 71.3%(57) of the patients had a block using a landmark technique, 6.3 %(5) using a x-ray technique(Fluroscopy), 5 %(4) using USG and 17.5% (14) using an USG and also had pulsed radiofrequency done. All the patients in all three groups had local anesthetic and particulare steroid (Depomedrone 40mg or 80mg) regardless of weather they had a PRF or no. All these patients were followed up in the clinic, roughly between 3 and 6 months. The effectiveness of the block was questioned, even though no specific scoring system was used to access pain. The effectiveness was measured in terms of significant pain relief in number of months. All the patients were observed in recovery for an hour for complications like bleeding, pneumothorax and were discharged home afterwards.

Most cases in our audit were done using anatomical landmark followed by USG guidance and PRF. The mean duration of pain relief in injections done using anatomical landmarks was 4.46months, X ray guidance (fluoroscopy) was 6.6 months, USG guided was 7 months and USG guided with PRF was 4.93 months. There was no significant difference in duration of benefit among all the four techniques. The P value was always more than 0.05, comparing the 4 techniques with each other. There we no reported complications or reports of pneumothorax in any of these patients.

Discussion

A study done by Hariharan, Jaymin Shah et al, compared effectiveness of anatomical technique with USG technique for suprascapular nerve block. They concluded that USG for suprascapular nerve block reduced the requirement of injectate to half and better pain relief. They did not look at the duration of pain relief. However this was a retrospective study looking at only 12 patients.[8] Kirti kamal, Naresh Dahiya et al, looked at the effectiveness of suprascapular nerve block using land mark and USG guided technique in 50 patients. Both the groups showed statistically similar improvement of VAS, range of motion and Shoulder pain and ability index at 4-week ($P > 0.05$) follow-up.[9] Rohof first described PRF lesioning of the suprascapular

nerve for the treatment of chronic shoulder pain.[10] Shah11 and Gurbet12 reported that each PRF procedure provided at least 12 weeks of pain relief and improved shoulder function. Rohof had not provided detailed outcome measurement. Gurbet only reported a small series without long-term follow-up data.

There was no study comparing all four techniques used for suprascapular nerve block. Our study comparatively had a significantly higher number of patients. However we were not able to demonstrate any significant increase in duration of analgesia offered by different techniques.

However, there were a number of shortcomings in our study, which could be addressed, and a better study can be done.

1. Ours was a retrospective study looking at the duration of pain relief.
2. Most of our patients were questioned about pain relief in follow up appointments which could have ranged anywhere between 4 weeks to 4months. As a result of which the patients were not able to give very specific information about the duration of effectiveness. They were not very accurate in estimate of pain relief.
3. Pain being a subjective symptom is difficult to quantify. So the satisfaction levels from the procedure even after good analgesia varied among different patients.
4. Because our data was taken from patients previous charts, and there were different consultants involved. There were differences in the manner, the outcome of the block was assessed and documented.
5. A prospective randomised controlled trial needs to be done to get accurate outcomes.
6. Future audit or study needs to also look at percentage reduction in VAS scores and functional assessment in terms of range of motion, shoulder pain and disability index (SPADI).

Based on the above results and the shortcoming of the study it would not be wise to advise any change in practice. However it is worthwhile noticing, that these are patients with significant distress and disability, and needs to be managed using a multidisciplinary approach as supposed to just injection treatments.

Acknowledgments

None.

Conflicts of interest

None.

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