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Agreement of Opinion Between an Orthopedic Surgeon and a Physical Therapist About the Management and Advice of Intraarticular Corticosteroid Injections for Patients with Shoulder Pain.

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[1] Data analysis Conception, synthesis, planning of research
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A B S T R A C T

Background: Physical therapist attends the patients with shoulder pain. An agreed understanding of the orthopedics and physical therapist will help them to improve the quality of patient care and will be cost effective.

Objectives: To reveal the index of agreement of opinion between orthopedic surgeons and Physical Therapist about diagnosis, investigations, management and administration of corticosteroid injections in orthopedic shoulder referrals.

Methodology: It was an Inter-Rater agreement study. The study was conducted at Sialkot College of Physical therapy, Amin Welfare and Teaching Hospital Sialkot from November 2016 to February 2017. Non-probability purposive sampling technique was used. Total 50 patients were assessed by a Physical Therapist and an orthopedic surgeon, having painful shoulder since 1 month, diabetes mellitus, and agreed to participate in this study. Patients with history of trauma, RA or having any previous surgery were excluded. The choices of both the specialist regarding investigations, diagnosis management and intra articular corticosteroid injection regimes were compared using inter rater reliability statistical methods using SPSS.

Results: The agreement between the Physical therapist and the orthopedic surgeon was nearly perfect for surgical and non-surgical treatment options (Cohen's kappa for agreement 0.885, for investigations desired (x-ray) 1.000), 0.879 which gives almost perfect agreement for investigations (musculoskeletal ultrasound) and 0.372 which gives fair agreement for Intra-Articular Injection as first choice for orthopedic surgeon. With the orthopedic surgeon were more inclined towards selection of corticosteroids as first choice of treatment and physical therapist were more confident to start with physical treatment first.

Conclusion: In this study a similarity was found in the decisions of physical therapist and the orthopedic surgeon for the management of shoulder pain, investigations to be advised (i.e. radiographs, RBS, musculoskeletal ultrasound) but the physical therapist were more inclined towards physical therapy treatment rather than intra articular injection as compared to the orthopedic surgeon at initial consultations.

Introduction

Primary care physicians come across shoulder pain very often. Despite of its frequent incidence, many clinicians are still not familiar with the diagnosis and treatment of many common shoulder dysfunctions. Physical examination can help in tracing out the root cause of shoulder pain that may include supraspinatus tendonitis, sub deltoid bursitis, frozen shoulder, biceps tendonitis, and acromioclavicular (AC) joint arthritis.[1]

which mostly receive conservative management in primary health care. Patient education and self-care regimes including rest and paying attention to occupational, recreational, or other physical contributory factors, is as necessary as analgesics are. The common interventions such as steroids and physiotherapy are poorly supported by literature.

Physiotherapy may decrease repeated primary care consultations for rotator cuff dysfunctions, and steroid injections have a little effect on pain for very short period of time. Prognosis is poor with increasing age, female gender and associated neck pain. Surgery must be considered when conservative measures prove fail.[2] Some of the practices in physiotherapy diagnosis, assessment and management of shoulder impingement syndrome are supported by the evidences.[3] Successful rehabilitation of hemiplegic shoulder pain can be achieved by use of NSAID's and ROM exercises.[4] Shoulder pain is usually present after stroke on affected body side. Treatment of shoulder pain should begin with simple analgesics. If shoulder pain persists, treatment should comprise of functional electrical stimulation or high intensity Transcutaneous Electrical Nerve Stimulation (TENS). Intra-articular steroid injections may be considered in resistant patients. [5]

Uses of therapeutic ultrasound in shoulder pain (mixed diagnosis), adhesive capsulitis or rotator cuff tendinitis is not supported by literature. When compared to exercises, ultrasound is of no additional benefit over and above exercise alone. In contrast, there is some evidence that for rotator cuff lesion, corticosteroid injections are better than physical therapy.[6] A well trained physical therapist is as effective as staff grade surgeon in managing the orthopedic outpatients who are unfit to get benefit from surgical interventions.[7] Daker White G; et al concluded via a clinical trial that Orthopedic Physical therapist are as effective as orthopedic surgeons in initial assessment and management of new referrals to orthopedic OPD and decrease initial direct hospital finance consumptions.[8]

In a pilot study conducted in Canada, diagnostic and treatment concordance between a physical therapist and an orthopedic surgeon in musculoskeletal impairments was explored, which reflected that there was 90% concordance in their diagnosis, 87% agreement in treatment recommendation and 75% accuracy in diagnostic methods.[9]

Existing literature support that Physiotherapist can be relied upon for initial assessment of patients with musculoskeletal disorders in primary care because there are only few patients who need additional inquiry by a GP, patient with diagnosed serious pathologies were discriminated by the physiotherapist and patients were also found satisfied with assessment by physiotherapist.[10] A non-inferiority Randomized Control Trial, explored not only the financial outcomes of the prescription and administration of the corticosteroids injections to the shoulder in an Australian orthopedic service, but also compared the decision making processes of the two specialties.[11] A clinical trial conducted in Australia, concluded that physical therapist can make similar decisions like an orthopedic surgeon at initial consultation for shoulder pain, including the safe identification of patients for sub acromial injection, without initial screening of referrals by orthopedic specialists.[12]

Methodology

It was an Inter-Rater agreement study. The study was conducted at Sialkot College of Physical therapy, Amin Welfare and Teaching Hospital Sialkot from November 2016 to February 2017. Duration was 4 months after the approval by ERC/IRB of the institution. Non-Probability Purposive sampling technique was used. Total 50 patients were assessed by a physical therapist and an orthopedic surgeon fulfilling the inclusion criteria; having painful shoulder since 1 month, diabetes mellitus, and hemiplegic shoulder and agreed to participate in this study. Patients with history of trauma, RA or any previous surgery and those who refused to participate in the study were excluded. The choices of the orthopedic surgeon and that of the physical therapist about investigations advised, primary diagnosis, management priorities and intra-articular corticosteroid injection regimes were compared using inter rater reliability statistical methods. SPSS version 22 was used to analyze the data. Qualitative variables were presented in the form of frequency tables and pie chart. Cohen's Kappa was applied to find out the inter class correlation between items to explore the agreement co-efficient.

Results

The mean age of the subjects was found 54.08 years and the range of patients' age was 35-80 Years. In this study 48% patients were males & 52% were females. The patients included in the study were 56% with Left & 44% with Right sided shoulder Pain.

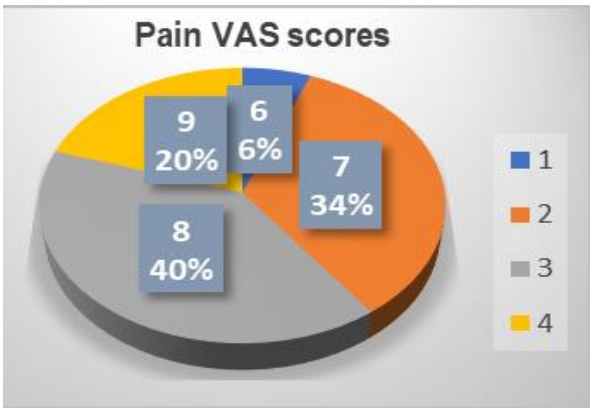

Chart No: 1 Visual Analogue Scale (Pain)

6% of the patients were having VAS-6, 34% were having VAS-7, 40% were having VAS-8 and 20% of the patients were having VAS-9.

The aggravating factors for pain included activity 80%, computer use 6%, weight lifting with affected side 4%, and other reasons 10%. While in contrast the relieving factors of pain included pain killers 8%, rest 86% and others 6%. The pain type was constant in 26%, intermittent in 72% and radiating in 2% of the patients.

Table: 1 Treatment decisions Surgical Vs. Non-Surgical

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	-.020	.014	-.144	.885
N of Valid Cases		50			

The approximately significant value of Kappa is .885 which gives almost perfect agreement for Surgical vs. Non-surgical treatment.

Table: 2 Investigations (X-Ray)

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.000[a]	.000	.000	1.000
N of Valid Cases		50			

The approximately significant value of Kappa is 1.000 which gives perfect agreement for investigations (X-Ray)

Table: 3 Musculoskeletal Ultrasound-Orthopedics Vs Physical therapist Cross tabulation

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.012	.098	.130	.897
N of Valid Cases		50			

The approximately significant value of Kappa is .879 which gives almost perfect agreement for investigations (musculoskeletal ultrasound).

Table: 4 Intra-Articular Injections as First Choice-Orthopedic Vs. Physiotherapist

Cross tabulation

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.069	.082	.893	.372
N of Valid Cases	50			

The approximately significant value of Kappa is 0.372 which gives Fair agreement for Intra-Articular Injection as first choice for orthopedic surgeon.

Table: 5 Physical Therapy 1st-Orthopedic Vs Physiotherapist Cross tabulation

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.069	.082	.893	.372
N of Valid Cases	50			

The approximately significant value of Kappa is 0.372 which gives Fair agreement for Physical therapy as first choice for Physical therapist.

Generally speaking the orthopedic surgeons were more inclined toward selection of intra articular corticosteroids injections as first choice of treatment and physical therapist, were confident to start with Physiotherapy treatment first.

Discussion

The mean age of the subjects was found 54.08 years and the range of patients' age was 35-80 Years. In this study 48% patients were males & 52% were females.

The patients included in the study were 56% with Left & 44% with Right sided shoulder Pain.

The results of this study are in line with and further support the previous studies which address the role of physical therapist in the initial assessment and management of non- surgical musculoskeletal conditions.

The previous studies have shown that properly trained physical therapist can replace the staff grade surgeon in managing non- surgical musculoskeletal problems including mechanical low back pain, shoulder and foot dysfunctions. The training must be focused to orthotics and administration of local steroid injections. The result can be gained in the form of low waiting time and a reduction of working hours of the busy orthopedic surgeons.[7]

According to a collaborative care model considered in a study conducted in Canada, Musculoskeletal impairments were found to affect one-third of the adult population, and responsible for wastage of time and account for one-third of a general practitioner's professional workload. This study suggested, that physiotherapists have equally reliable diagnostic expertise to orthopedic surgeons, and they will facilitate the conservative treatment for the orthopedic patients.[9]

Not only an RCT supports the results of this study that the physiotherapist can not only satisfy the patients but can also reduce the cost of treatment[8], Even the Patients were more satisfied and confident with physiotherapist for assessment and for patient education rather than by a General Physician.[10] Our results are consistent with another study which concluded that the long waiting list of orthopedics can be avoided by utilizing the expertise of well-trained physiotherapist in Australia.[11]

The results of our study also support index of agreement between Orthopedic and Physical Therapist about diagnosis, Management and administration of sub acromial corticosteroid injections in patients with shoulder pain.[12]

Conclusion

In this study a similarity of opinion was found in the decisions of physical therapist and the orthopedic surgeon for the management of shoulder pain, investigations to be advised (i.e. radiographs, RBS, musculoskeletal ultrasound) but the physical therapist were more inclined towards physical therapy treatment rather than intra articular injection as compared to the orthopedic surgeon at initial consultations.

References

1. House J, Mooradian A. Evaluation and management of shoulder pain in primary care clinics. Southern medical journal. 2010;103(11):1129-35; quiz 36-7.
2. Mitchell C, Adebajo A, Hay E, Carr A. Shoulder pain: diagnosis and management in primary care. BMJ: British Medical Journal. 2005;331(7525):1124.
3. Hanchard N, Cummins J, Jeffries C. Evidence-based clinical guidelines for the diagnosis, assessment and physiotherapy management of shoulder impingement syndrome. The Chartered Society of Physiotherapy. 2004.
4. Poduri KR. Shoulder pain in stroke patients and its effects on rehabilitation. Journal of Stroke and Cerebrovascular Diseases. 1993;3(4):261-6.
5. Walsh K. Management of shoulder pain in patients with stroke. Postgraduate medical journal. 2001;77(912):645-9.
6. Green S, Buchbinder R, Hetrick SE. Physiotherapy interventions for shoulder pain. The Cochrane Library. 2003.
7. Weale A, Bannister G. Who should see orthopaedic outpatients--physiotherapists or surgeons? Annals of the Royal College of Surgeons of England. 1995;77(2 Suppl):71-3.
8. Daker-White G, Carr AJ, Harvey I, Woolhead G, Bannister G, Nelson I, et al. A randomised controlled trial. Shifting boundaries of doctors and physiotherapists in orthopaedic outpatient departments. Journal of Epidemiology & Community Health. 1999;53(10):643-50.
9. Aiken AB, McColl MA. Diagnostic and treatment concordance between a physiotherapist and an orthopedic surgeon–a pilot study. Journal of interprofessional care. 2008;22(3):253-61.
10. Ludvigsson ML, Enthoven P. Evaluation of physiotherapists as primary assessors of patients with musculoskeletal disorders seeking primary health care. Physiotherapy. 2012;98(2):131-7.
11. Marks D, Bisset L, Thomas M, O'Leary S, Comans T, Ng SK, et al. An experienced physiotherapist prescribing and administering corticosteroid and local anaesthetic injections to the shoulder in an Australian orthopaedic service, a non-inferiority randomised controlled trial and economic analysis: study protocol for a randomised controlled trial. Trials. 2014;15(1):503.
12. Marks D, Comans T, Thomas M, Ng SK, O'Leary S, Conaghan PG, et al. Agreement between a physiotherapist and an orthopaedic surgeon regarding management and prescription of corticosteroid injection for patients with shoulder pain. Manual therapy. 2016;26:216-22.