ACUTE PAIN AND LOSS OF SHOULDER MOVEMENT - HOW TO GO ABOUT? AN EVIDENCED ANALYSIS

ABSTRACT:

Acute pain with shoulder, loss of active shoulder movement, in a diabetic, hyperlipidemia, endomorph subject gives risk to a variety of clinical conditions as under lying cause to be identified and treated with medication. As many associated conditions such as vertebro basilar insufficiency, atherosclerosis, cervical myelopathy could be contra indications to many physiotherapy modalities such as traction and manual therapy procedures.

As orthopaedic and neurologic advice on investigations, evaluation with due medication, physiotherapeutic rehabilitation were carried with reasonable recovery in couple of months period later. The results were discussed on Visual analogue scale (VAS) and her subjective shoulder function scores. Due clinical decision making skills, early intervention by other health care experts enable proper, timely health care delivery with team work was the core of this research

KEY WORDS:

VAS – Visual analogue scale

NMRI – Nuclear magnetic resonance imaging

HbA1C – Glycosylated Hemoglobin

LBA – Low back ache

INTRODUCTION:

Physical movements which are painless forms basic for an independant living.

Whenever there is pain and loss of movement especially on dominant shoulder could limit daily activities including self care. As a middle aged female home maker and

employed further triggers the involved subject agony. As variety of orthopaedic and neurological causes can influence on sudden loss of shoulder (Right) movements with acute pain affected subject was referred by physiotherapist to an orthopaedic surgeon, diabetologist and neurologist through a physician to further investigate the course, treat and refer back to physio rehabilitation.

The orthopaedic surgeon has diagnosed her as having cervical radioculopathy, with Nuclear magnetic resonance imaging (NMRI) showing multiple degenerative changes with neural compression of cervical spine.

AIMS AND OBJECTIVES:

I. To analyse various causes related to acute shoulder pain and loss of movement.

II. What are the ways to develop physiotherapist as independant as health care expert in a clinical scenario

MATERIALS & METHODOLOGY:

48 year old women, mesomorph, mother of 2 children gives past medical history of hysterectomy at the age of 36 years, employed as a clerical staff in a Non -Governmental organization (NGO) in Chennai. Normotensive, diabetic, hyperlipidemia C/O Pain over right shoulder with inability to lift shoulder for 2 days origin as on 12/09/2020.

The subject was later treated with strengthening griddle and shoulder joint muscles for a period of 2 months with thrice a week frequency, following referring to a physician, orthopaedic surgeon, diabetologist and a neurophysciain.

ON EXAMINATION

1.Obliterated cervical lordosis, 2. Hypertonicity of right upper extremity , 3.Babinski sign negative, 4. Motor power of shoulder muscles – Nil, 5.Radicular symptoms, 6.Trapezitis – positive, 7.BP - 140/96 mm/hg , 8.HR-90/min,9. Ambulant unaided, partially independent for sell care, 10.Pain over shoulder with no Il/o fall or any infection, 11.Elbow, hand grip of (Right), left upper extremity, both lower extremities

NAD

Passive ROM of right shoulder, full but painful chief problem

1. Pain and inability to use right shoulder for self care

2. Pain over cervical spine

PROBABLE DIFFERENTIAL DIAGNOSIS:

Cervical myelopathy? - Brachial plexus lesion? - Monoplegia? - Chronic cervical spondylosis with severe nerve root compression/ stenosis? - The orthopaedic surgeon has diagnosed her as having cervical radioculopathy, with NMRI showing her C3-C4

C4, C5, C5-C6 post central disc protrusion - Narrowing of spinal canal right > left - Serum cholesterol levels very high - Hba1c Blood sugar level – 8.

She was adviced a course of NSAID, tablet Gabapentin, continue neck arm sling for 15 days was referred to diabetologist.

RESULTS:

Her prognosis VAS has decreased from 8/10 to 2/10. Shoulder functional index (Disabilities of the Arm, Shoulder and Hand Questionnaire) has improved from 80 to 38. The author being first contact health care expert, to whom the s on basic clinical evaluation expert, to whom the subject has reported

1. Has a suspicion on Monoparesis as there was a hypertonicity, as the subjects was a diabetic and having hyperlipidemia.
2. Passive movements shoulder range of movements were pain free, which further triggers the doubts on cervical myelopathy as reflexes were also exaggerated +++.
3. As the subject had trapezitis being employed as a clerk could further deepened the cause to cervicogenic neurological compression or a brachial plexus injury or stenosis in cervical spine.
4. Since no history of trauma fractures of cervical spine were ruled out

5. The subject was ambulant and converse relevantly, hence cognitively preserved so as a movement specialist, physio therapist when we come across these unique clinical situations, with due clinical reasoning at once refer the affected subject for further with due clinical, radiological and laboratory.

DISCUSSION:

Research Question arises:

I. Discuss the role of physiotherapist in this critical scenario

Symptoms of visceral reflective disorder should be ruled out from a mechanical mechanism of pain and ruling out for cervical radioculopathy (Mamula et al 2005). Occupation and imaging studies helps to establish the diagnosed. Murphy and Hurwitz et al 2007 where sequential steps to establish the origin of symptoms can be used where questions

1. Such as life threatening or visceral disorders
2. Structural source
3. What has gone wrong causing pain to develop and resist.

II. Course of probable prognosis of this subject

Yoshino 2012 in a diabetic hypoglycemic hemiparesis of an elderly subject and has reported 200 cases. Mechanism of this was postulated to hypoglycaemic vasospasm (Miura et al, 1998 & Duh et al, 1994). Ronquist and Frithz et al 1989 related to hypoxia or ischemia. Fujikoka et al 1997 have recorded changes in brain such as cortex, basal nucleus substantia nigra, thalamus, hippo campus and Hasegawa et al 1996 severe transient hypoglycaemia causes reversible changes. Wainner et al 2003 have used spurling test for cervical radioculopathy with diagnostic accuracy and reliability. Neer and Hawkins Kennedy were used to rule of shoulder impingement syndrome and Scedil et al 2000 which have high sensitivity and specificity.

III. Combined evaluation of orthopaedic and neurological means why it's important

Cleland et al 2007 who have shown short team successful outcome with infrequent arm pain with sizable improvement in DASH among 975 subjects with cervical radioculopathy with physiotherapy based on (NDI) Neck disability index, Numerical Pain rating scale (NPRS), patient specific functional scale, globally rating of change where predictors such as >54 years dominant arm not affected, looking down, not worsening symptoms, where cervical traction, manual therapy, deep flexor muscle strength to be effective.

Good et al 2010 have shown have recorded comorbidities influencing LBA (Low back ache) and LBA related leg pain using outcome measures sensitive to identify changes in function for body regions. Popovic 2015 have analysed an elderly man with moderate pain and weakness of right arm with hba1c, elevated triglycerides, obesity hypertension, NMRI revealed C6, C7, C8 plexopathy on right side, hence concluded diabetic neuropathy must be considered for neurologic diagnosis. This was very similar to this study subjects condition, co - morbities to be considered for diagnosis and treatment were insisted.

1. As clinical expert, physiotherapist should prior treating pain, should analyse probable causes and apply SOAP (Subjective, Objective, Assessment, Plan) strategy
2. If pain with associated loss of motor weakness then vascular, infective malignancy to be ruled out, treated by medical experts. Example for giving cervical traction to this subject with hypertonicity may have cervical myelopathy a contra indicated one. With the subject being a diabetic hemiparesis may be following hypoglycaemic incidents, other probabilities were cervical radioculopathy from her age, nature of job which were evidenced as below
3. Another possibility of this subject might have developed Monoparesis and without due medical intervention treating with physiotherapy may be unethical as being a diabetic might have developed higher glycemic levels. The following

evidences display how comorbidities can influences on prognosis of subjects with arm pain and lowback ache

4. Also with trapezitis, hypertonicity and weakness of shoulder might be with spinal cord compression due to tuberculosis, hence without due diagnosis and proper medication for example giving shortwave diathermy to this subject can be highly harmful. Thus due evaluation and treatment by concerned experts, where physiotherapists role to refer promptly was more emphasized here

INVESTIGATIONS BE DIAGNOSED, MEDICALLY TREATED

Later to be rehabilitated with due physiotherapeutic means

Major purpose of this clinical research were:

1. Basic evaluation with muscle tone, movement analysis too clinical reasoning
2. Judiciously use electrotherapy, as not only to treat trapezitis and right shoulder pain, rather investigate further with due evidenced practice
3. Always ensure underlying cause to be treated as in this subject it could be an UMN or compression of neurological structure or stenosis as with rehabilitation using exercises establish proper diagnosis, thus ensuring maximal care of the subject.
4. Prompt reference with due evaluation, ensures better professional ethics by physiotherapist as well uphold higher standard of practice

Pain along with in ability to use right shoulder of sudden development in an adult female can be due to a sphere of clinical conditions such as brachial palsy, acute stroke, cervical disc disorder, neuro vascular complications, fracture around shoulder. In this situation basic evaluation along with a referral report to an orthopaedic and neurophysician must compulsorily be sought as done in this presentation. Keeping above evidenced conditions, clinical reasoning for referral for further care helps to adhere ethics as well improve professional standard.

Rehabilitated later following orthopaedic and neurologist the subjects recovery with physiotherapy were discussed with evidence.

Health care, a team work with patient centric approach was more highlighted. Clinical reasoning skills, professional upholding of translating what was learned, at the same time practicing inter professional relationship were more emphasized in this research. Further research on each subject with every team members of health are on their role can be attempted instead of each one elaborating their role separately were recommended.

CONCLUSION:

As a clinician, knowing and acting promptly by referring to concerned medical fraternity should be foremost in patient care. Due interaction among healthcare experts with due investigations and care can be great value in different clinical scenarios. This presentation where an unique patient multidisciplinary role using evidence.

Limitations of this research was it lacks long term further follow up. Further such clinical situations can be discussed which provide an insight of critical analysis and clinical therapist with due evidence. This research focused on how to go about in a clinical situation of acute complaints of shoulder a patient approaching physiotherapist with various clinical causes to be given a thought and not to mechanically treat the subject with electrical modalities. Thus establishing Scientific means with probable Causes were discussed with evidence for the benefit of clinical physiotherapists.

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