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CHRONIC SCIATICA AMONG OCTOGENARIAN NOT TO TREAT OR TO TREAT WITH EXERCISES? AN EVIDENCE BASED CROSS OVER STUDY

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ABSTRACT
Lowback pain among geriatric population, remains a common clinical condition influenced by variety of reasons. Prompt intervention with physical exercises promote quality of life among them. **Aims & Objective** of this case presentation was to emphasise on early physical intervention of sciatica and analyse impact of physiotherapy in chronic sciatica. **Materials & Methodology:** An 84 year old male with lowback pain with right sciatica was treated only with medicine, Lumbosacral belt, IFT for 3 years January 2013 – December 2015 (Phase I). With detotriation of balance, motor deficit, frequent falls, he was referred to physiotherapy. With weekly thrice physiotherapy from January 2016 to January 2019 (Phase II). His condition was evaluated and analyzed statistically. **Results** on Oswestry score have shown P <.05 along with positive clinical prognosis, subjective improvement in terms of his daily needs were recorded. With phase II, where as Phase I with insignificant outcome **Conclusion:** an early intervention with physical exercises among geriatric musculoskeletal complaints results can be good with an improved QOL.

KEYWORDS: Sciatica, Quality of Life, Oswestry Score, Geriatrics.

INTRODUCTION

- Sciatica is a debilitating condition where pain arthritis in the distribution of the sciatic nerve with associated lumbo sacral nerve root (Davis and Vasudevan etal 2019). Common Causes of sciatica is herniated or bulging lumbar intervertebral disc elderly population with stenosis, spinal malignancy, epidural hematema may case sciatica. Global scenario with no gender predominance, peak evidence at fourth decade, genetic predisposition, occupational hazards among Indian. Evaluation using history physical examination evaluation, CT, scan, NMRI to establish the cause (Koes etal 2007). 90% cases of sciatic is caused by a herniated disc with nerve root compression (Koes etal 2007). The diagnosis and need management of sciatica varies with paucity of evidence and lack of clear clinical guidelines reflect differences in health care (Weinstein etal 2006). Pain, atrophy of muscles falls, Paresthesia, quality of life, dependence for ambulation, impact of sciatica leading to marked disability discussed with evidence along with importance of regular physiotherapy and need for follow up among sciatica subjects in this research

Prevalence: With life time prevalence of low back pain ranges from 49% to 70%, 5%-10% of these subjects with LBA have sciatica (Younes etal 2006).

Risk Factors: Personal and occupational risk factors for sciatica including age, height, mental stress, cigarette smoking and vibration from vehicles exposure of (Younes etal 2006 & Mirindon etal 2002).

Diagnosis: With 91% sensitivity was not well studies cross legged SLR has a specificity, but cross legged SLR has a specificity of 88% and only sensitivity of 29% (Deville etal 2000).

- Radiography is not recommended as disc cannot be visualized by X- rays (Jarvik etal 2002) while NMRI is more preferred than CT for better soft tissue are visualized (Govind etal 2004 & Awad etal 2004).
- Also in many people with clinical symptoms no lumbar disc herniation are present on scans (Modic etal 2005).

Efficacy of Conservative Treatment: Staying active is better than bed rest (Hagen etal 2005). Analysis, NCAID, muscle relaxants not more effective than placebo (Vronen etal 2000).

Surgery: RCT (Randomized Control Trial) surgical intervention versus conservative treatment with good results after one year but 4 and 10 years of follow up no significant differences (Weber etal 1983).

This Research Aims & Objectives: As clinical guidelines and evidenced research available on the physiotherapy management among chronic sciatica are much less this original research strives to compare on an octogenarian subject with chronic sciatica with (No Physiotherapy) lumbo sacral belt NSAID, bed rest electrotherapy modalities for three years (Phase I) (Versus) followed by three years of physiotherapy (Phase II).

MATERIALS AND METHODOLOGY

Background Information

Mr. XXX, aged 84 years, mesomorph, non hypertensive, diabetic with HbA_1C at 6% gives a H/O low backache C/O fear of falling, unsteadiness while walking, altered sensation in the feet.
BMI: 26 kg/m^2

His present physical condition as on 02/19 as below
O/e

- Both upper extremities and left lower extremity NAD
- Right sacroiliac joint pain weakness and a trophy of hamstrings, gluteus maximums, medius and minimus, quadriceps femoris with motor power > 3/5, right dorsiflexors 1/5, plantar flexors 3/5
- Tendo achilles tightness and dorsal edema on right foot and foot drop
- MTP, subtalar joint – movements were painful
- Right knee reflexes ++ ankle + left normal
- Range of motion of extreme, hip, knee, ankle were painful but restricted
- Proprioception of knee, ankle – decreased right >left
- Superficial sensation over right feet was diminished and pin prick sensation was less
- Gait – ambulant with minimal support for short distance
- Balance – able to stand with hand support
- Transfers in bed – independent, but sitting to standing and other dynamic activities fear of falling there and need minimal support
- Rombergs sign negative

Provisional Diagnosis

Chronic sciatica, with atrophy of hamstrings, and gluteus maxims, tendoachilles tightness and foot drop.

Procedure

This study subject with diagnosis of acute lowback pain with right radiculopathy was medically treated with NSAID, Lumbosacral belt for more than three years (January 2013 – December 2015) with no physical exercises (Phase I). But once his decreased balance with difficulty in walking, history of frequent falls, Paraesthetic sensation of foot, he was referred to physiotherapy and was treated with selective exercises based on clinical evaluation and his functional needs from January 2016 – January 2019 (Phase II). Nature of physiotherapy was 20-25 minutes of each session with thrice a week frequency at an exercise intensity from 50-70% of this maximal heart rate Proprioceptive exercises, balance training, core strengthening, strengthening of hip and knee muscles.

RESULTS

Table 1: Paired 't' test using Oswestry score of Phase I.

	Mean	SD	SE	t	P
Pre	66	.81	.47	-4.25	P>.01
Post	68				

Table 2: Paired 't' test using Oswestry score of Phase II.

	Mean	SD	SE	t	P
Pre	68				
Post	6842	14	8.15	3.19	P<.05

DISCUSSION

I. Research questions discussed with reference to sciatica among geriatric subjects

1. Should an early physiotherapy intervention required?
2. Nature of physiotherapy to prevent complications and promote QOL?
3. Chronic sciatica can progress negatively options available to manage?
4. Need for geriatric physiotherapy relevant to sciatica?

- Acute sciatica in a RCT with NSAID resolves in 60% of the patients in 3 months but 30% continues to have pain for one year or longer (Weber etal 1993 & Vromen etal 2000).
- **Systematic Review Revealed** Physical therapy such as traction, corsets, manipulation, hot packs not better than inactive (Lujster Berg etal 2007).
- In a Cochrane Review surgical discectomy in patients with sciatica is more effective than placebo was reported (Gibon etal 2007)but effective clinical relief for patients for carefully selected patients with sciatica as a result of lumbar disc prolapsed that fails to resolve with conservative care (Van Tulder etal 2006).

- But it reports long term effects of surgical intervention are unclear and the optimal timing of surgery is looking (Gibson etal 2007). **Findings of this research where in Phase I no specific physiotherapy were applied resulting in more complications such as atrophy, falls, foot drop. Where as in Phase II based on patient specific evaluation, using evidenced exercises has positive impact improving subjects QOL as shown in table: 2.**
- RCT of 501 and observational cohort of 743 where subjects with sciatica more than six weeks were studied with conservative and surgery innervations in a two year follow-up reported quicker relief of symptoms with surgery than conservative group but no larger differences were found with their rating after 2 years (Weinstein etal 2006). **As patient centric treatment may have direct positive influence on the magnitude of the treatment effect as shown in Table: 2 instead of symptom based treatment with negative influence as shown in table: 1.**

Limitations of this research was being a single subject was analyzed with therapy, outcome measures were subjective nature. However the findings of this research can be validated with larger sample size and including more variables for modalities as well outcome measures.

CONCLUSION

Enhance quality of life among geriatric population with physical exercises should be made mandatory. This subject was treated with physical means after sciatica becomes chronic, hence promoting existing components to be started early in order to provide independency for day to day activities, not to ignore and accept ageing but to combat suitable therapeutic measures to maximize their living conditions.

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