



EMPHASIS OF EARLY INTERVENTION IN YOUNG STROKE - A CASE REPORT

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ABSTRACT

The purpose of this study was to determine the underlying reason for occurrence of stroke in young craftsman and make him achieve his goal of performing activities of daily living independently post stroke. He underwent physiotherapy treatment for seven days while admitted in the ward where the exercises were given on the basis of impairments. The therapy was targeted to achieve his goal to return to his working routine and earn for the living for him as well as his family.

Keywords

Young stroke, Hemorrhage

INTRODUCTION

The occurrence of stroke in young adults comprises of around 10-15% of total stroke in a year worldwide.¹ Most of young strokes encountered are ischemic ones whereas very few of them are found to be hemorrhagic. Approximately 30-35% of young stroke cases are accounted to be hemorrhagic (Intracerebral and subarachnoid).²

Stroke is one of the leading causes of disability, morbidity and mortality in the world. People suffering from stroke have greater impact on family and social life. They are often employed, peaking at their careers, caring for the dependents in the family which is affected due to impairments persisting post stroke. Rehabilitation and recovery process for young stroke survivors differs from those in older adults. It involves restoring the person to his or her functional status before stroke as well as able to return to occupation.

Most of young stroke cases do not have known and usual etiologies. There many underlying possibilities not understood at time of onset such as developmental cardiac abnormalities, hematological disorders, chronic systemic inflammation and many others.³ Many risk factors are also responsible for stroke in young adults such as drug abuse, contraceptive use, and hypertension.

Young stroke is a major cause of concern in developing countries such as India as they belong to earning strata of the society. This case study aimed at knowing the underlying pathology in a young stroke patient and rehabilitates him to a functional level so that he can join his job.

CASE DESCRIPTION

A 26 year old male, craftsman by occupation, presented with history of loss of consciousness followed by regaining it after 2 mins while playing outdoors and was in usual state after that. Around 5 hours after this episode he had a syncope accompanied by involuntary movements and loss of consciousness. He was reported to have seizure episode and was admitted in ICU in local hospital. He underwent emergency intubation was on ventilator for a day and then weaned off.

He was suggested to shift in tertiary hospital care, where on the way he had a fall in ambulance but sustained no external injuries. After around 3 days, he had sudden onset of severe headache posteriorly and aching in nature, and sudden weakness of right hand and right leg characterized by inability to lift right arm and move right leg. He was immediately shifted to ICU and immediate medical care was taken. MRI investigations were done which revealed minimal Subarachnoid Hemorrhage (SAH) in bilateral parietal regions. He recovered from his weakness after around 7-8 hours after onset of weakness. He was then shifted to ward and referred for physiotherapy treatment.

The patient did not have any history of hypertension. He reported to have occlusion of varicose veins by thrombus about a year ago which was resolved with allopathy medications for month followed by homeopathy medication for around 7 months. He did not report of having any addictions.

On examination by physiotherapy department, he had intact higher motor functions and speech with retention of memory about the subsequent events that occurred which led to the weakness. On observation he had stoop posture in sitting with protracted shoulders. The cranial nerves and sensation were intact, plantar reflex was up going on right side and deep tendon reflexes were normal (++) bilaterally. Tone was normal but there was some amount of weakness persisting in right lower extremity. Muscles such as hip flexors, abductors, extensors; knee flexors, extensors and dorsiflexors were graded 4 on doing MMT (Manual Muscle Testing) on right side. Balance was affected with fair dynamic balance in standing and good static balance. He could perform transitions such as supine to sit, sit to stand, and walk independently or requiring supervision at times. His baseline measurement of STREAM (Stroke Rehabilitation Assessment of Movement), TIS (Trunk Impairment Scale), Mini-BESTest scales were taken whose values were 56/70, 20/23, 10/28 respectively. He had difficulty in performing activities such as dressing, bathing and toileting activities and required minimal help of bystanders to perform these activities.

INTERVENTION

The therapy aimed at strengthening of weak muscles and balance training to help him to achieve independence in performing activities of daily living.

Muscles such as shoulder flexors, abductors, elbow flexors, hip flexors and abductors, knee flexors and extensors, dorsiflexors were strengthened by attaching 1 kg weight cuff and moving the limbs in required direction. Weight bearing activities such as partial squats, single limb squats (weight bearing on right side) were done with 10 repetitions in 2 sets.

Balance training involved giving reach outs within base of support and out of base of support in sitting as well as standing. He was made to stand with narrow base of support for 30 seconds initially with eyes closed gradually after 6 days of regular training he could stand for 60 seconds in narrow base of support. Similarly single limb stance initially he could stand only for 15 seconds with eyes closed on right leg, progression was made each day, and with training he could maintain balance for 45 seconds after 6 days of training.

Ambulation- He was made to walk on a straight line on 2nd day of reference, gradually the complexities were increased such as head turns during walking, altering speed while walking, taking turns, answering questions simultaneously (training for dual tasks). These activities were targeted so that while performing regular activities patient did not lose balance.

On 5th day of training he was trained with stair climbing initially with one step upwards with one leg followed by other leg on the same step with railings support. Progressively he was made to climb stairs with alternate stepping without railings support.

After 7 days of intervention, scales were again taken to know the amount of improvement with respect to recovery. The STREAM score was 70/70, TIS was 23/23, Mini-BESTest was 21/28 on the day of discharge from hospital.

He was given advised to avoid addictions, in case of similar episode to have emergency consultation to neurologist and regular compliance with neurologist was suggested as he was at high risk of developing similar episode.

RESULTS

After 7 days of physiotherapy treatment the patient could balance while walking, reduced incidences imbalance when distracted while walking. He could perform activities such as dressing, bathing, and toileting independently without supervision of bystanders. He was ready to resume his job within few days and support the family.

DISCUSSIONS

Functional prognosis represents one of the most important and meaningful aspects of outcome of disease. The patient almost recovered from the impairments suffered post stroke.

The patient did not have any history of long standing headache (migraine) indicating internal bleed. There is no history fall or trauma on head causing internal bleed. Symptoms such as severe headache and loss of consciousness in indicative of hemorrhage but pathology causing hemorrhage could not be understood.

SAH has high chances of neuroinflammation causing early brain injury and delayed brain deterioration including cellular and molecular events.⁴ So it was necessary to make the patient aware of possible consequences such as reoccurrence of stroke.

CONCLUSION

The case study reveals that conventional physiotherapy techniques and methods helped the patient achieve his goal of performing activities of daily living independently. The therapist ensured that the patient was counselled about his condition and had chances of further complication and to take appropriate preventive measures.

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