

Case Report

Primary hyperparathyroidism with neuromuscular disease

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Neuromuscular disease in Hyperparathyroidism is a known entity but it needs a very high index of suspicion to diagnose it. Such a case is being presented here of a patient who attended our OPD for rehabilitation without a definitive diagnosis.

Anju 22 Female R/O Saharanpur, Uttarpradesh
Presented To Dept Of Rehabilitation, Safdarjung Hospital With the Following Complaints.

Generalised bony pain — 3 Years
Inability to stand and walk — 2 Years
Deformities of both hips and knees — 6 Months

History of present illness : Patient was apparently ill right 3 years ago. Generalised bony pains started in both the feet and later spread to all over the body. Pain was present throughout the day; it increased on movement, progressively worsening in severity, moderate temporary relief with analgesics, which the patient took on and off. Pain interfered with routine household work. Patient developed difficulty in walking due to pain and weakness. Initially patient managed indoor walking with the support of the walls, later the patient was only able to crawl inside the house and started using a wheelchair for outdoor mobility, the wheelchair being propelled by her attendant.

Patient has noticed deformities of both the hip and knee joints with restricted range of movements for the past 6 months, as she is unable to straighten the joints fully.

There has been a gradual decrease in ability to stand for more than 3 to 5 minutes. There is history of weakness

of both upper and lower limbs more in the proximal muscles as also difficulty in prone lying.

There is no history of fever, cough, weight loss, pain abdomen, giddiness, skin lesions, joint swellings or trauma.

Past history : No history of diabetes mellitus, hypertension, bronchial asthma, or pulmonary tuberculosis. No similar illness in the past.

Patient had a full term normal delivery 15 months ago and breastfed her baby for 8 months.

Personal history : Vegetarian.

Family history : Nothing significant.

Treatment history : Patient used to take analgesics on and off for bony pains. Patient was on calcium supplement and vitamin D3 for suspected osteomalacia, pending electrophysiological studies for the diagnosis of her neuromuscular problem.

Medicosocial history : Married for 3 years, patient has a 15-month-old daughter, she had been doing tailoring 3 years ago but not doing any work now due to the illness.

Her husband is working in a welding shop and also sells vegetables part-time earning Rs1000 per month.

Activities of daily living :

Feeding – Independent

Toileting and bathing – Partially dependent

Mobility – Wheelchair propelled by attendant, totally dependent.

FIM score; see chart.

General Physical Examination :

Moderately built and poorly nourished,

BP and Pulse: 120/78 mmHg and 86 per minutes.

CVS and RS clinically NAD.

PA: no organomegaly and no tenderness.

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CNS:

- (1) Higher mental functions – normal
- (2) Cranial nerves: Normal, strabismus left eye seen.

Upper Limbs :

Bulk wasting proximal>distal

Tone Normal.

Power: Shoulder 4/5 bilaterally.

Elbow 4/5 bilaterally.

Wrist 3/5 bilaterally.

Handgrip N right side weak on left side.

Sensory normal.

DTRS normal.

Trunk power fair.

Lower limbs

Bulk wasting of thigh muscles bilaterally.

Tone normal.

Power Hip 3/5 bilaterally.

Knee 4/5 bilaterally.

Ankle 4/5 bilaterally.

Musculoskeletal system :

Generalised bony tenderness is present.

Both upper limbs ROM is full.

Both lower limbs: Hips painful range of movement in all directions.

Flexion contracture 15° bilaterally.

Knees genu varum seen.

15-20° flexion contracture seen bilaterally.

on investigations CBC and urine normal.

Serum Ca 11.6 mg%

Serum phosphates 1 mg%

Se alkaline phosphatase 3918 iu

X-Rays showed triradiate pelvis with Loser's Zones.

A provisional diagnosis of metabolic bone disease/Hyperparathyroidism/Osteomalacia was made and the patient referred to AIIMS for further investigations.

Patient admitted to the Department of PMR, AIIMS on 2.9.2000.

On reevaluation and investigation further findings came forth.

Serum Ca 11,

Serum phosphates 2.2

Serum alkaline phosphatase 2367,

24-hour urinary calcium 440 mg

Serum parathormone 820 picograms/ml (n=11 to 84

picograms/ml.)

X-rays revealed in ulna, radius and scapula and subperiosteal resorption on radial side of phalanges.

Thallium Technetium Subtraction scan showed mildly increased radiotracer uptake in the region of inferior pole of right lobe of thyroid suggestive of right lower parathyroid adenoma.

During this period of investigation oral calcium supplement was stopped,

Rehabilitative measures were started which included ROM exercises to both upper and lower limbs

prone lying :

gentle passive stretching b/l hips and knees.

tilt table standing.

A diagnosis of parathyroid adenoma-hyperparathyroidism with neuromuscular disease was made and the patient was transferred to Department of Surgery.

The patient underwent right inferior parathyroid adenoma excision on 16.9.2000, which on biopsy showed features of parathyroid hyperplasia.

Postoperative period was uneventful. Patient attended the PMR Department for Tilt table standing.

Gait training on parallel bars.

ROM exercise for both upper and lower limbs.

At discharge :

Patient had no bony pain, she was able to stand independently and walk a few steps, and flexion deformities of hips and knees had reduced. She was given a home exercises programme for increasing endurance and increasing the walking time and distance.

Investigations at discharge:

Serum calcium -8.9 mg%, phosphate-1.5mg%, alkaline phosphatase- 406iu.

Follow-up at 3 months :

Patient was able to negotiate stairs, sit cross-legged squat and had become independent in ADL. She was able to take care of her baby at home walk 200-300 metres before feeling tired and was planning to take up some vocation.

Investigations :

Serum calcium-8.6mg%, phosphate-3.0mg%, alkaline phosphatase -216mg%.

Discussion

Neuromuscular disease in hyperparathyroidism is a known entity and is reversible if the cause is removed. The differential diagnoses form a list of orthopaedic and neurological disorders. These include rheumatoid arthritis and its differential diagnoses, metabolic bone disorders, motor neuron disease, myopathy and electrolyte imbalances.

The primary step in management is identification and treatment of the cause of the disability. The diagnosis of primary hyperparathyroidism with neuromuscular disease was made duly confirmed and the patient got operated for removal of the offending parathyroid gland. The strategies of ROM and attention to contractures were

essential in the overall view but could not have tackled the disease process. The importance of search for the cause of the disability is highlighted here with the help of this paper so as to impart definitive management and for complete and comprehensive rehabilitation.

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