

Adult primary hypoparathyroidism: A rare presentation

Ashima Datey Chakrabarty

Department of Pulmonology, Eesha Multispeciality Hospitals, Hyderabad, India

ABSTRACT

The common causes of stridor in adults are abscesses or swelling of upper airway, tumors, paralysis or malfunction of vocal cords. Laryngospasm due to hypocalcemia is a rare cause of stridor in adults, although occasionally reported in the neonates. We report an elderly lady having stridor and laryngospasm, secondary to acquired hypoparathyroidism and secondary hypocalcemia, without risk factors for hypoparathyroidism such as recent neck surgery or irradiation. We did an extensive review of literature to find only a few cases of acquired primary hypoparathyroidism in adults with the only complaint being stridor. This case underlines the fact that a common symptom like stridor rarely occurs due to uncommon causes. This case is being reported for its rarity and amenability to complete cure in event of correct diagnosis.

Key words: Hypocalcemia, primary hypoparathyroidism, stridor

INTRODUCTION

Stridor is an abnormal, high-pitched sound produced by turbulent airflow through a partially obstructed airway. It is a symptom that is greatly distressing and worrisome to the patient and physician alike, and an underlying cause must be determined. Stridor in adults is commonly due to abscesses or swelling of the upper airway, tumors, and paralysis or malfunction of the vocal cords. The cause of stridor is usually obvious on investigations such as CT scanning or fibreoptic bronchoscopy. However, in our case, when the above investigations failed to reveal an etiology, an exhaustive search for rare causes of stridor was required.

CASE REPORT

A 77-year-old female hypertensive and diabetic patient came

with complaints of cough with purulent expectoration, shortness of breath (MMRC Grade II), and difficulty in swallowing since 2 days. She had long standing generalized weakness. She was, otherwise, in good general condition and vital signs were Pulse-80 beats/min, regular, BP-130/70 mmHg, RR-30/min, SpO₂-96% on room air and Temperature 98.4 degree F. She had mild pallor, and an audible inspiratory and expiratory stridor. All other systems were normal on examination.

Blood investigation showed low Hb counts (9.8 gms%), raised ESR (102 mm/hr), raised serum creatinine (2.01 mg/dl). Chest radiograph showed mild cardiomegaly with normal lung fields. Bronchoscopy and CT scan showed no intrabronchial obstruction, extraluminal compression of airway or other abnormalities.

We evaluated Serum Calcium, Phosphorus, PTH levels in view of age and long standing generalized weakness with non-specific complaints. Investigations revealed parathyroid hormone PTH-3.83 pg/ml(↓) [15-65 pg/ml], Serum Calcium-3.2 mg/dl (↓) [8.4-10.2 mg/dl], Sr. Phosphorus-11.8 mg/dl (↑) [2.4-4.5 mg/dl], S.Mg-1.6 mg/dl [1.5-2.5 mg/dl]. Serum Albumin and Vitamin D levels were normal. No nutritional, familial, congenital, infiltrative or autoimmune cause of hypoparathyroidism

Access this article online

Quick Response Code:



Website:
www.ijem.in

DOI:
10.4103/2230-8210.119571

Corresponding Author: Dr. Ashima Datey, D2, 231, Kanthishikhara Apartments, Punjagutta - 500 08, Hyderabad, India.

E-mail: ashima_aries@yahoo.com

was obvious. Patient never had surgery or irradiation of neck.

In view of laboratory values showing severe hypocalcemia, hypoparathyroidism, and hyperphosphatemia, we considered the possibility of hypocalcemia induced stridor secondary to idiopathic hypoparathyroidism. Patient was treated with high dose intravenous calcium (Calcium Gluconate) and Vitamin D (Calcitriol) in addition to receiving all supportive treatments. Intake of milk and milk products was restricted in view of hyperphosphatemia. She showed immediate response to above treatment with stridor and dysphagia abating on second day of IV calcium therapy. She was discharged in a stable haemodynamic condition. On discharge, Serum calcium was 8.3 mg/dl, Serum phosphorus was 6.5 mg/dl.

DISCUSSION

Stridor and laryngospasm due to hypocalcemia, a well-known condition in the pediatric age group has rarely been reported in the elderly. Hypocalcemia as a part of hypoparathyroidism is also a known condition, and is also more common in pediatric age group, rarely reported in post-accidental adults or intentional parathyroidectomy. Very few cases of hypoparathyroidism induced hypocalcemic stridor in adults are reported.^[1]

The most common causes of stridor in adults are abscesses or swelling of the upper airway, tumors and paralysis or malfunction of the vocal cords. Appropriate initial work up for a case of stridor includes visualization of airway through bronchoscopy for intraluminal pathology and CT scans with or without virtual reconstruction for extraluminal causes. These are usually sufficient for diagnosis and treatment planning. However, in our patient these investigations were uninformative requiring divergent thinking to consider rare diagnoses such as bronchomalacia and electrolyte abnormalities.

Laryngospasm due to hypocalcemia is a rare cause of stridor.^[2] Isolated reports of elderly patients who presented with stridor and intermittent sudden airway obstruction resulting from laryngospasm secondary to hypocalcemia of nutritional origin are noted.^[2] Hypocalcemia leads to increased neuromuscular irritability and may present with circumoral numbness, paresthesias of the hands and feet, and muscular cramps, or when severe, with laryngospasm, focal or generalized tonic muscle cramps, or seizures, myocardial dysfunction and prolongation of the QT interval. Solitary symptom of stridor, in absence of one or more of the above manifestations is rare.

Transient hypoparathyroidism with biochemical abnormalities is commonly seen (>83% of cases) after

thyroid surgery.^[3] However, our patient had no recent or remote history of thyroid/neck surgery or irradiation.

Congenital, genetic and hereditary, familial autoimmune, or infiltrative causes of parathyroidism may cause stridor in adults,^[4] but rarely present in advanced ages which manifested earlier, and were unlikely in our patient in the absence of suggestive family history.

In absence of history of neck surgery, nutritional deficiency cannot be ruled out, especially in postmenopausal females in India. Severe hypocalcemia and hypomagnesemia resulting from malabsorption syndrome secondary to celiac disease in an elderly woman leading to laryngospasm has been reported.^[5] However, nutritional deficiency hypocalcemia would likely be associated with secondary hyperparathyroidism and hypomagnesemia. Hypomagnesemia alone may also result in increased neuromuscular irritability and perioperative laryngospasm from hypomagnesemia, and secondary hypocalcemia in a diabetic patient has also been reported.^[6] However, the magnesium level of our patient was normal.

CONCLUSION

Thus, in absence of usual causes of stridor and uninformative image ology, a high-index of suspicion for rare causes of laryngospasm in elderly proved helpful in guiding diagnosis and treatment. This case highlights hypoparathyroidism of idiopathic origin as a rare cause of stridor, which was completely reversible without complicated or invasive procedures and highly satisfying to patient and physician alike.

REFERENCES

1. Williams GT, Brown M. Laryngospasm in hypoparathyroidism. *J Laryngol Otol* 1974;88:369-73.
2. Srivastava A, Ravindran V. Stridor secondary to hypocalcemia in the elderly: An unusual presentation. *Eur J Intern Med* 2008;19:219-20.
3. Dedivitis RA, Pfuetzenreiter EG Jr, Nardi CE, Barbara EC. Prospective study of clinical and laboratorial hypocalcemia after thyroid surgery. *Braz J Otorhinolaryngol* 2010;76:71-7.
4. Sharief N, Matthew DJ, Dillon MJ. Hypocalcaemic stridor in children. How often is it missed? *Clin Paediatr (Phila)* 1991;30:51-2.
5. Waeber G, Pralong G, Breitenstein E, Nicod P. Laryngospasm: Unusual manifestation of celiac disease. *Schweiz Med Wochenschr* 1993;123:432-4.
6. Papaioannou A, Papantonaki S, Nyktari V, Psomopoulos H, Karatsis P, Fridakis O, *et al.* Hypomagnesaemia associated with diabetes mellitus may cause laryngospasm. *Acta Anaesthesiol Scand* 2006;50:512-3.

Cite this article as: Chakrabarty AD. Adult primary hypoparathyroidism: A rare presentation. *Indian J Endocr Metab* 2013;17:S201-2.

Source of Support: Nil, **Conflict of Interest:** None declared.