Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/jcot

Case Report

Horner's syndrome in cervico-dorsal tuberculosis: A rare case report

Vinay Prabhat^{a,*}, Gauresh S. Vargaonkar^a, Sunil R. Mallojwar^a,
Ramesh Kumar^b

^a Senior Resident, Central Institute of Orthopaedics, Vardhaman Mahavir Medical College and Safdarjung Hospital, New Delhi, India

^b Director Professor, Central Institute of Orthopaedics, Vardhaman Mahavir Medical College and Safdarjung Hospital, New Delhi, India

ARTICLE INFO

Article history:

Received 23 July 2015

Accepted 18 February 2016

Available online 10 March 2016

Keywords:

Horner's syndrome

Tuberculosis

Spine

Ptosis

Miosis

ABSTRACT

Tuberculosis is a disease that affects any part of body and presents with varied complications. A case of cervico-dorsal tuberculosis is described here presenting with quadriparesis and Horner's syndrome. Horner's syndrome as a complication of cervico-dorsal tuberculosis has not been reported yet in literature.

© 2016 Delhi Orthopedic Association. All rights reserved.

1. Introduction

Tuberculosis is known to mankind from ages. It is very common in a developing country like India. Skeletal tuberculosis ranges from 2 to 10% of all tuberculosis cases.¹ Among skeletal tuberculosis, vertebral tuberculosis is the most common form, i.e. 50% of all articulo skeletal tuberculous infections.¹ Various complications of tuberculosis have been mentioned in literature. We are reporting here a rare complication of cervico-dorsal tuberculosis with concomitant Horner's syndrome.

2. Case report

A 6-year-old male child was brought to our OPD by his parents with chief complaint of weakness of all four limbs for the past 15 days. Weakness was acute in onset and progressively increasing. In addition to this, the patient had pain in upper back and neck with low-grade fever. There was no history of trauma or any other significant complaint. On physical examination, there was deep midline tenderness in cervical and upper dorsal region of spine. Neurologically, there was motor weakness in all four limbs, and sensations and

* Corresponding author. Tel.: +91 8130547173.

E-mail address: vinay.prabhat@rediffmail.com (V. Prabhat).

<http://dx.doi.org/10.1016/j.jcot.2016.02.015>

0976-5662/© 2016 Delhi Orthopedic Association. All rights reserved.

Fig. 1 – T2 image of cervico-dorsal spine showing epidural, pre-, and para-vertebral abscess.

sphincteric functions were intact. The patient was initially managed by absolute bed rest and supportive treatment. Subsequently, when he was evaluated, ESR and CRP both were raised. Radiograph of cervical spine showed straightening with maintained vertebral height and disc spaces. MRI was suggestive of spondylodiscitis along with phlegmonous soft tissue changes in pre- and para-vertebral region of cervico-dorsal spine extending from C3 to D3 vertebra (Figs. 1 and 2). Diagnosis of tuberculosis of cervico-dorsal spine was made on the basis of suggestive history, examination, and relevant investigation. One interesting finding we noticed in this patient was association of ptosis and miosis (Fig. 3) in left eye with on-going disease process. Enophthalmos and anhidrosis were not seen. Pupillary light reflex was present along with absent cilio-spinal reflex. This led to our diagnosis of Horner's syndrome in left eye, which can be a complication of cervico-dorsal tuberculosis. The patient was managed with antitubercular chemotherapy and immobilization of spine using head halter traction. Neurological complications showed

Fig. 2 – T1 image of cervico-dorsal spine showing epidural, pre-, and para-vertebral abscess.

some improvement from 3rd week of treatment. At 4th week, traction was released and spine was immobilized on four post collar. At 3 months, there was complete improvement in motor weakness while ocular complication took longer time to recover. At 6 months, the patient showed complete improvement. ATT was continued for one and a half years.

3. Discussion

Horner's syndrome, also known as Bernard-Horner syndrome, is characterized by miosis, ptosis, and apparent enophthalmos with or without anhidrosis.² This occurs due to affection of ipsi-lateral sympathetic trunk.³ Horner's

Fig. 3 – Clinical photograph of patient showing ptosis and miosis in left eye.

syndrome has many possible etiologies that can involve a lesion anywhere in the course of the sympathetic tract from hypothalamus to brainstem and upper thoracic cord, sympathetic trunk, stellate ganglion, carotid artery, and finally long ciliary nerve of eye.³ These etiologies can be divided into three major types: (1) Central in which anhidrosis occur over face arm and trunk. (2) Preganglionic in which anhidrosis is restricted to face. (3) Postganglionic in which anhidrosis is not seen.⁴

In our case, a 6-year-old child had caries of cervico-dorsal spine with epidural, pre-, and para-vertebral abscess. The epidural abscess compressed thecal sac causing acute quadriparesis in the patient over a period of 15 days. The pre-vertebral abscess, which was more on the left side, caused compression of ipsi-lateral sympathetic chain. Interruption of sympathetic outflow caused inactivation of dilator pupillae and superior tarsal muscles leading to miosis and ptosis respectively. However, enophthalmos was not seen in our case due to its acute presentation. It was a postganglionic type of Horner syndrome as there were no signs of anhidrosis over face, arm, or trunk, whereas in Central or preganglionic lesions, anhidrosis is more noticeable. The sudomotor and vasomotor fibers to most of the face separate out at the superior cervical ganglion and anhidrosis is often not noticeable in postganglionic lesions.⁵

Clinical features and blood reports led us to the diagnosis of tuberculosis. MRI further supported our diagnosis as it showed spondylodiscitis of cervico-dorsal spine with pre-, para-, and epidural abscess. On the basis of this, antitubercular treatment was started and the patient responded to therapy subsequently.

4. Conclusion

Tuberculosis of cervico-dorsal spine and concomitant Horner syndrome is a rare presentation, and not yet mentioned in literature. Due to extensive abscess formation and subsequent compression over sympathetic chain, Horner's syndrome may develop as acute complication of cervico-dorsal tuberculosis.

Conflicts of interest

The authors have none to declare.

REFERENCES

1. Trecarichi EM, Di Meco E, Mazzotta V, Fantoni M. Tuberculous spondylodiscitis: epidemiology, clinical features, treatment, and outcome. *Eur Rev Med Pharmacol Sci.* 2012;2(April (16 suppl)):58–72.
2. Meng K, Tian W, Lv Z, Song X. Horner's syndrome subsequent to minimally invasive video-assisted thyroidectomy in two patients. *Oncol Lett.* 2015;10(July (1)):459–462. Epub April 28.
3. Reede DL, Garcon E, Smoker WR, Kardon R. Horner's syndrome: clinical and radiographic evaluation. *Neuroimaging Clin N Am.* 2008;18:369–385. <http://dx.doi.org/10.1016/j.nic.2007.11.003>.
4. Lee JH, Lee HK, Lee DH, et al. Neuroimaging strategies for three types of Horner syndrome with emphasis on anatomic location. *Am J Roentgenol.* 2007;188(January (1)):W74–W81.
5. Sayan M, Çelik A. The development of Horner syndrome following a stabbing case. *Rep Med.* 2014;2014:461787.