ABSTRACT

Educational Objective:
At the conclusion of this presentation, the participants should be able to describe the clinical characteristics of laryngeal dystonia in an adult with neurosyphilis and identify botulinum toxin injection as an effective treatment option.

Objective:
To present a case report of laryngeal dystonia associated with neurosyphilis and the therapeutic outcome of botulinum toxin injection.

Study design:
Case report

Methods:
A 43 year-old male with neurosyphilis was evaluated for persistent strained and stuttering voice despite systemic penicillin therapy. MRI of brain revealed lesions in the basal ganglia. Initial videostroboscopy showed aperiodic mucosal waves, hyperfunction of the false vocal cords, and anterior-posterior compression consistent with laryngeal dystonia.

Results:
After two months of speech therapy with limited improvement, the patient received 2.5 units of botulinum toxin injection to each thyroarytenoid muscle. Two weeks after the injection, a repeat videostroboscopy showed mobile vocal cords bilaterally with bilateral periodic mucosal waves (Fig. 3). No hyperfunction of the false vocal cords or adductor breaks were seen. The voice quality has improved with no adductor breaks or straining. The secondary facial behaviors and stuttering were greatly decreased compared with the previous evaluation.

Conclusions:
This is, to our knowledge, the first case report of laryngeal dystonia associated with neurosyphilis. Botulinum toxin injection provided significant voice improvement in this setting.

BACKGROUND

Dystonias are a group of movement disorders that are characterized by involuntary, action-induced counterproductive muscle contraction. Laryngeal dystonia (LD) is an example of a focal, action-induced dystonia that affects laryngeal motor control. Patients who have LD suffer from hyperfunction of their laryngeal muscles with excessive closing or opening of the glottis during phonation or respiration.

LD may be classified as primary (also called sporadic or idiopathic) or secondary (related to trauma, infection, medication, or underlying neuromuscular disorder). LD secondary to central nervous system infection has been described previously as a result of Japanese encephalitis(1).

This is to our knowledge the first report that describes LD in a patient with neurosyphilis and the treatment outcome with botulinum toxin injection.

CASE PRESENTATION

A 43 year-old Hispanic male presented with strained and breathy voice for five months. The patient had been evaluated by Neurology for gradual onset of slow gait and bilateral intention tremor.

On initial examination, the patient had a breathy voice with irregular break and extreme effort. Flexible fiberoptic laryngoscopy showed bilateral mobile vocal cords. The rest of his head and neck examination was within normal limits. A positive Babinski sign was noted on the lower left extremity. He had poor balance, wide gait, and was unable to walk in tandem. Romberg’s sign was negative. Speech pathology evaluation revealed a strain-strangle vocal quality with intention tremor on phonation and frequent adductor breaks. Videostroboscopy showed bilateral aperiodic mucosal waves. Complete glottic closure and frequent hyperfunction of the false vocal cords with anterior-posterior compression were also observed (Fig. 2).

Laboratory evaluation included a normal level of vitamin B12, folate, homocysteine, anti-nuclear antibody, lupus panel, strongly positive rapid plasma reagin (RPR) titer (1:4), and positive Treponema pallidum particle agglutination (TP-PA) assay.

RESULTS

Magnetic resonance imaging of the brain showed severe bilateral periventricular ischemic changes in addition to old lacunar infaracts in the left striatum, left thalamus, left centrum semiovale, left insula, and leftpons (Fig. 1). Bilateral carotid ultrasounds showed no stenosis. The patient received IV penicillin therapy for neurosyphilis, but his neurological deficits were largely unchanged a month after discharge.

CONCLUSION

Botulinum toxin injection is an effective treatment option in a rare case of laryngeal dystonia associated with neurosyphilis.

REFERENCE