

NEUROGENIC LESIONS IN PROFESSIONAL SINGERS

Dr. Isabel Garcia-Lopez

ABSTRACT

INTRODUCTION

Neurogenic lesions of the laryngeal nerves involve two different conditions: vocal fold paralysis, defined by the immobility of the vocal folds and vocal fold paresis, often a challenging diagnosis. Vocal fold paresis can be suspected sometimes by some endoscopic signs and can present as a functional disorder, that is why patients with this condition can be misdiagnosed. Professional singers also can suffer paralysis and paresis of the vocal folds. In case of paresis, symptoms can be related just to the singing voice. Laryngeal electromyography (LEMG) remains the gold standard to rule out the presence of neurogenic lesions of the vocal folds. The objective of this work is to rule out the importance of neurogenic lesions in professional singers and describe the clinical characteristics among this patients.

METHODS

A retrospective review was made of all professional singers evaluated in the voice clinic of our hospital with a diagnosis of vocal fold paralysis or paresis during a 10-year period. The diagnosis of vocal fold paralysis was made with the presence of an immobile vocal fold. The diagnosis of paresis was made based on the following endoscopic signs on laryngeal evaluation: asymmetry in adduction-abduction or elongation of the vocal folds, and unilateral supraglottic hyperfunction. LEMG was performed in both cricothyroid and thyroarytenoid muscles in order to rule out lesions of the superior or the recurrent laryngeal nerves. The categories of LEMG items registered were spontaneous activity, morphologic characteristics of motor unit action potentials (MUAPs), recruitment pattern, and presence of synkinesis.

RESULTS

447 professional singers were evaluated in the voice clinic of our hospital. 188 (42%) were men and 259 (58%) women. 289 (65%) were opera singers, 81 (18%) pop singers, 66 (15%) musical theatre singers and 11 (2%) flamenco singers.

13 patients were diagnosed of vocal fold paralysis or paresis based on endoscopic signs. 1 had a vocal fold paralysis secondary to thyroidectomy. Among the 12 singers diagnosed of vocal fold paresis, all of them except from one related the onset of symptoms with a viral infection. Although LEMG was indicated in all cases to rule out the presence of a neurogenic lesion, it was performed in 5 patients, all of them with vocal fold paresis. In all cases LEMG was positive, 3 cases had a partial lesion of the recurrent laryngeal nerve and 2 cases had a superior laryngeal nerve injury.

CONCLUSIONS

Diagnosis of vocal fold paresis remains controversial just based on endoscopic examination. The most appropriate procedure to rule out the diagnosis is laryngeal EMG. Professional singers are reluctant to LEMG probably due to risks associated with the test.