



March 08-09, 2018 Paris, France

Christopher Honey, J Otol Rhinol Vol: 7 DOI: 10.4172/2324-8785-C1-007 6<sup>th</sup> Edition of International Conference on

## Otorhinolaryngology

## HEMI-LARYNGOPHARYNGEAL SPASM (HELPS): The discovery and cure of a novel cause of Inducible laryngeal obstruction



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**Introduction:** Inducible laryngeal obstruction has been described under more than 40 different eponyms including vocal cord dysfunction, paroxysmal vocal fold motion and irritable larynx. Some patients remain refractory to proton pump inhibitors, speech therapy and psychotherapy. We present a case series of four patients with hemi-laryngopharyngeal spasm (HELPS) who presented with inducible laryngeal obstruction and were cured following microvascular decompression (MVD) of their vagus nerve.

**Method:** Four patients with HELPS are described with details of their presentation, MR imaging, video-laryngoscopy, intraoperative findings, and clinical outcomes.

**Results:** All four patients presented with a 4-6 year history of intermittent but progressive throat contractions (choking) and cough. Symptoms increased in frequency, duration and severity and eventually occurred while sleeping. The choking caused severe stridor with rare LOC leading to intubation and tracheostomy (n=1). Three of the four had lateralized contractions. The coughing was triggered by a tickle deep to the xiphisternum and became severe enough to cause visual phosphenes, incontinence, and tussive headache. MR demonstrated a loop of posterior inferior cerebellar artery (PICA) adjacent to the vagus nerve (n=4). Intra-operative videos

during MVD demonstrated compression of the vagus nerve in each case. All four were relieved of their symptoms with followup more than one year. Post-operative complications included dysphonia (n=3) resolving after one, three and ten days, dysphagia (n=1) resolving after two months, and delayed CSF leak (n=1) requiring a dural patch.

**Conclusions:** Hemi-laryngopharyngeal spasm is a recognizable condition with a combination of episodic but progressive throat contractions and coughing. MR imaging of a PICA loop adjacent to the vagus nerve should prompt consideration of MVD. All referrals came from a laryngologist and all were initially misdiagnosed as psychogenic. The incidence of this new medical condition is estimated to be approximately 1 in 100,000 per year.

## Biography

Christopher Honey is Professor of Surgery (Neurosurgery) at the University of British Columbia in Vancouver, Canada. He is President of the Canadian Neuromodulation Society and a Board Member on the World Society for Stereotactic and Functional Neurosurgery. He has received his Medical degree from the University of Toronto and completed a Doctoral degree in Oxford as a Canadian Rhodes Scholar. His neurosurgical training was in Vancouver where he is a full tenured Professor.

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