

## Abstracts

### Podium: LARYNGOLOGY

Monday, June 8, 2015 @ 14:30-15:00

#### **Does Botulinum Toxin Type A Alter the Consequences of Recurrent Laryngeal Nerve Transection in the Rat Model?** – M. Jomah, L.F. Zhu, A. Krajacic, H. El-Hakim, Edmonton, AB

##### Learning Objectives

1. The learner will be able to identify the experimental treatment options for laryngeal paralysis.
2. The learner will be able to understand the proposed pathophysiological theories of LP and the basis for the hypothesis of this experiment.
3. The learner will be able to identify the mechanisms of action of BTX-A, and the impact on neurophysiological status.

**Objective:** To investigate whether an injection of botulinum toxin type A (BTX-A) into external laryngeal muscles can enhance the neurophysiological status and recovery of laryngeal function in an experimental model of laryngeal paralysis (LP). **Method:** A single blind randomized controlled animal study, was conducted at a research institute. Sprague Dawley rats with surgically induced right sided LP, were either injected with BTX-A or placebo into external laryngeal muscles (cricothyroid, sternothyroid, and sternohyoid). The difference between the two groups with respect to; median laryngeal electromyography (LEMG grades was the primary outcome). The secondary measures were the proportions of recovered VF on endoscopy, and the medians of burst, amplitude and duration on LEMG. **Results:** 24 rats were randomized. Five expired at several stages. There was a statistically significant difference between the median LEMG grades of right posterior cricoarytenoid ( $p= 0.02$ , 95% CI 0.017-0.023). The median grade for the intervention group ( $n=10$ ) was four (25<sup>th</sup>%=2.75, 75<sup>th</sup>%=4), and for the controls ( $n=4$ ) was one (25<sup>th</sup>%=0.25, 75<sup>th</sup>%=3.25). No difference was found in the thyroarytenoid median grades. Movement recovered in four out of nine, and four out of ten animals of the control and intervention groups ( $p 1.00$ ). No difference was found in the amplitude and the burst durations between the two groups. **Conclusions:** In the short term, BTX-A appears to enhance the phasic activity of the laryngeal abductor muscle in the rat. However, this was not translated into functional VF movement. Further work will be necessary to clarify the impact on clinically significant mobility.

#### **Trans-nasal Esophagoscopy - The First Prospective Canadian Study** – A. Darnbrough, Winnipeg, MB, K. Kost, Montreal, QC

##### Learning Objectives

1. Understand the principles and technique of TNE
2. Appreciate the indications and contraindications of TNE
3. Be aware of potential complications of TNE
4. Review of the current literature comparing TNE to standard endoscopy.

**Objectives:** 1. Understand the principles and technique of TNE 2. Appreciate the indications and contraindications of TNE 3. Be aware of potential complications of TNE 4. Review of the current literature comparing TNE to standard endoscopy. **Methods:** This is a prospective study of patients undergoing transnasal esophagoscopy (TNE) at McGill University and the University of Manitoba from Nov 1st 2013 to Nov 12th 2014. Data collected included: age, sex, indication, procedure time, findings, and complications. **Results:** 45 patients underwent TNE between

Nov 1st 2013 and Nov 12th 2014. There were 21 females and 24 males, age ranged from 21 to 78. All patients underwent TNE under topical anesthesia only in an outpatient setting. Indications for TNE included: LPR unresponsive to empiric therapy, dysphagia, and suspected esophageal pathology. Findings included: 1. hiatal hernia (n=5) esophageal stricture (n=2), gastric polyps (n=1), Barrett's esophagus (n=1) and esophagitis (n=1) and cricopharyngeal spasm (n=1). Technical difficulties included failure to pass the scope through the nose in one case, and failure to pass through the lower esophageal sphincter in one case. Complications included a vasovagal reaction in one case. There were no cases of esophageal injury or perforation. **Conclusions:** TNE is a safe, effective out-patient procedure. Because TNE is able to bypass the gag reflex, conscious sedation is not required. Low morbidity makes it an attractive alternative to traditional esophagoscopy. This is the first study evaluating TNE in Canada.