

**Department of Surgery**  
**2026 Research Day**  
**6<sup>th</sup> May 2026 (Wednesday) | 7 am – Noon | MART Auditorium**

**Title:**

**Inner Ear Symptoms in Patients with Idiopathic Intracranial Hypertension: Prevalence and Association with Comorbidities**

**Author(s) and Affiliations:**

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**Background:**

Idiopathic Intracranial Hypertension (IIH) is characterized by increased intracranial pressure with an unidentifiable cause. Communication between cerebrospinal fluid and the inner ear via the cochlear aqueduct may theoretically transmit intracranial pressure changes to the perilymphatic space, potentially altering inner ear fluid dynamics. Case reports and cohort studies have shown that patients diagnosed with IIH may experience inner ear symptoms, but the prevalence and risk factors for developing these symptoms have not been adequately investigated. This study aims to determine the prevalence of inner ear symptoms and investigate characteristics of patients diagnosed with IIH that may predispose them to developing such symptoms.

**Methods:**

TriNetX was used to identify patients with IIH (ICD G93.2). The prevalence of tinnitus, vertigo, benign paroxysmal vertigo (BPV), Ménière's disease, hearing loss, and sudden hearing loss was determined by creating cohorts of patients who had each symptom and were concurrently diagnosed with IIH. Cohort analyses between IIH patients and patients with IIH as well as tinnitus, vertigo, and hearing loss were performed to compare demographics and comorbidities. IIH patients under 50 were also compared with patients with IIH and hearing loss under 50.

**Results (or Preliminary Results):**

Out of 125,594 IIH patients, 6.81% had tinnitus, 11.22% had vertigo, 2.05% had BPV, 0.32% had Ménière's disease, 6.70% had hearing loss, and 0.25% had sudden hearing loss. IIH was associated with earlier onset of BPV ( $p < 0.001$ ,  $d = 0.61$ ), Ménière's disease ( $p < 0.001$ ,  $d = 0.70$ ), and sudden hearing loss ( $p < 0.001$ ,  $d = 0.52$ ). 5.33% of IIH patients under 50 had hearing loss, and IIH elevated the odds of hearing loss (OR 5.67, 95% CI 5.50-5.84,  $p < 0.001$ ). Gastroesophageal reflux disease (GERD), hyperlipidemia (HLD), and vitamin D deficiency increased the odds of tinnitus, hearing loss, and vertigo. Chronic kidney disease, chronic obstructive pulmonary disease, and heart failure increased the odds of hearing loss and vertigo.

**Conclusions (or Preliminary Conclusions):**

Patients with IIH demonstrate a measurable burden of inner ear-related symptoms. Notably, individuals under 50 with IIH show a significantly increased likelihood of developing hearing loss compared with those without IIH. Several comorbidities—including GERD and HLD—were associated with increased odds of auditory and vestibular symptoms. These findings support a potential relationship between elevated intracranial pressure and inner ear dysfunction.