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| **Mannitol provocation enhances laryngoscopic diagnosis of suspected inducible laryngeal obstruction** |
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| **Introduction/Aim:** Inducible laryngeal obstruction (ILO) is confirmed by observing paradoxical vocal fold movement (PVFM) on laryngoscopy, but test sensitivity is reduced by its intermittent nature. Specificity of isolated expiratory PVFM is also unclear, possibly denoting a physiologic response to lower airway obstruction. We sought to clarify laryngoscopic diagnosis in suspected ILO through mannitol provocation  **Methods: I**n patients with suspected ILO, we assessed rates of laryngoscopic PVFM, both at baseline and following mannitol provocation, defined as; any inspiratory adduction, ≥50% expiratory adduction, or both. We noted accentuation of laryngoscopic findings following mannitol provocation, defined as new, or increased, PVFM. We explored relationships between isolated expiratory PVFM, lower airway obstruction on spirometry, and bronchial hyperresponsiveness to mannitol. We also studied healthy volunteers.  **Results:** Among 80 patients with suspected ILO, PVFM rates were 42/80 (52.5%) at baseline and 58/80 (72.5%) following mannitol. Mannitol accentuated laryngoscopic findings in 45/80 (56%), with new PVFM in 17/80 (21%) and increased PVFM in 28/80 (35%). Among patients with baseline isolated expiratory PVFM; 21/30 had accentuation by mannitol; there was no relationship with airway obstruction or bronchial hyperresponsiveness. Among healthy volunteers; PVFM rates were identical at baseline and following mannitol (4/15, 27%, all four with isolated expiratory PVFM); none (0/15) had accentuation by mannitol.  **Conclusion:** Accentuation of laryngoscopic findings following mannitol provocation is more useful than PVFM at baseline laryngoscopy to distinguish patients with suspected ILO from healthy volunteers. Isolated expiratory PVFM without accentuation by mannitol can be a normal finding, and also unrelated to bronchial obstruction or hyperresponsiveness.  **Grant Support:** Nil. |