

Nasal bitter taste testing as a screening tool in chronic rhinosinusitis

Ramiza Ramza Ramli, MMed (ORL-HNS)¹, Shankar Ramasundram, MMed (ORL-HNS)²

¹Department of Otorhinolaryngology-Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Kota Bharu, Kelantan, Malaysia, ²Hospital Penawar, Kuala Lumpur, Malaysia

ABSTRACT

Introduction: The disease burden of chronic rhinosinusitis (CRS) has encouraged numerous research for efficient management of this condition. The bitter taste receptors (T2Rs) emerging role in CRS came by that way. Studies have suggested targeting these receptors could help in stratifying CRS patients into groups requiring medical treatment or surgical intervention. This study is aimed at developing a screening method to detect the bitter taste receptor in the nose using available bitter ligand and to come up with suitable titration of this ligand for future use. Additionally, we detected the presence of this receptor and the difference in its sensitivity between healthy and individuals with CRS. **Methods:** A comparative cross-sectional study was carried out to determine nasal glucose concentration and phenylthiocarbamide (PTC) taste threshold sensitivity in different subsites of the nose among healthy and individuals with CRS. Serial dilution method employed on PTC dilution prior to application into the nose and intranasal glucose concentration measured obtained with the use of colorimetric assay. **Results:** Based on the 0.13% as the most suitable dilution for intranasal testing of PTC, there is an association between nasal bitter taste testing among CRS and control groups with a P value of <0.001. Majority of the CRS individuals were not able to detect PTC and also had a raised nasal glucose concentration at the same time. The detection of a bitter taste in different sites of the nose was similar in the same individual for the given concentration of PTC. **Conclusion:** The bitter taste testing to the nose seems to be a simple and inexpensive way for screening of patients with CRS. The titration and intranasal sites suggested in this study can be used as a basis for further prospective studies to view the outcome of patients with CRS. Targeting these receptors in diagnosis could open a new window of opportunity in the management of patients with CRS.

The effect of mometasone furoate nasal spray on blood oxygenation in allergic rhinitis patients

Ramiza Ramza Ramli, MMed (ORL-HNS)¹, Khalid Mohamad Azizul Fitri, MMed (ORL-HNS)², Rosdan Salim, MMed (ORL-HNS), Amirozi Ahmad, MMed (ORL-HNS)

¹Department of Otorhinolaryngology Head and Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia, ²Department of Otorhinolaryngology Head and Neck Surgery, Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia, ³KPJ Penang Specialist Hospital, Penang, Malaysia

ABSTRACT

Introduction: Allergic Rhinitis (AR) is a disease presented with symptoms like nasal discharge, blockage and itchiness which impaired the quality of life of most patients depending on its severity. The most common symptom in AR patients is a persistent bilateral nasal blockage which may inevitably affect the blood oxygenation in the lung. However, the symptoms can be controlled using intranasal steroid spray (INS). This study is going to elicit the influence of nasal obstruction in decreasing blood oxygenation and how INS improves the blood oxygenation. **Methods:** This study involved 33 AR patients. Subjects of moderate to severe nasal obstruction are recruited based on Visual Analogue Scale (VAS) and Mometasone furoate nasal spray (MFNS) two puffs twice a day for two weeks, was given. Parameters compared pre and post medication include VAS of nasal obstruction, partial oxygen arterial pressure (PaO₂), partial arterial carbon dioxide pressure (PaCO₂) and oxygen saturation (O₂ Saturation). **Results:** All parameters showed a significant difference between pre and post medication. VAS, PaO₂, PaCO₂ and O₂ saturation showed a significant pre and post medication differences (p<0.01). **Conclusion:** A comprehensive treatment of nasal obstruction using MFNS help to improve blood oxygenation and nasal obstruction in AR patients.