

Discrepancy between Perceived Severity of Nasal Obstruction and Objective Findings in Rhinomanometry and Acoustic Rhinometry.

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Purpose: Some patients complain nasal obstruction although rhinomanometry and acoustic rhinometry show no obvious sign of severe obstruction. The study wishes to realize the discrepancy between perceived nasal obstruction and objective finding of tests.

Methods: Inspiration/expiration resistance, cross-sectional area and segmental space, and minimal cross-sectional area and its corresponding position were acquired by using rhinomanometry and acoustic rhinometry. Before measurements, patients rank perceived nasal obstruction from 0 (no obstruction) to 5 (total obstruction) for either side. 107 patients complained nasal obstruction were recruited. Analysis of variance (ANOVA) and Multiple Regression both were used to observe which parameters are correlated to self-perception of nasal obstruction.

Results: Both the inspiration and expiration resistances of right side are positively correlated to perceived right nasal obstruction, while no significance was found at left side. Regarding the cross-sectional area, only the area at 3.3 cm shows significant different for both right side and left side. Although the minimal cross-sectional area is significantly different only at the left but the right side, the occurred positions of minimal cross-sectional area reach significant level for both sides. On the other hand, the spaces within 0-3.3 cm and 2-4 cm demonstrate negative correlation to the perceived nasal obstruction at the left, while no such phenomena were found for the right.

Conclusions: It is consistent that the severity of perceived nasal obstruction for both left and right side of nose are highly correlated to the position of minimal cross-sectional area. Nasal obstruction at different position of minimal cross-sectional area between 1 and 3 cm might be the reason for causing different degree of perceived severity for the patients. The right side of nose is more correlated to flow resistance and the left side to the cross-sectional area and segmental space at anterior position (2-3 cm) of nose, Human perception of right and left side of nose might have different perceived mechanism in the brain.