Correlation of sinonasal symptoms with the size and position of nasal septal perforation – An observational study

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Objective: To assess the correlation of sinonasal symptoms and quality of life with the size and position of nasal septal perforation (NSP).

Ethical consideration: Clinical audit approved by the Department of Clinical Standards (reference number 4968-17/18)

Methods:
• Prospective observational study
• SNOT-22 and its clino-psycho metric domains1 (Table 1) were analysed including additional NSP-specific symptoms (nasal crusting, epistaxis and whistling noise during nasal breathing).
• Size of perforation → measured radiologically by calculating the area in cm² and antero-posterior (AP) length (Figure 1).
• Position of the perforation → measured clinically by the distance from columella to the anterior edge of the perforation.

<table>
<thead>
<tr>
<th>SNOT-22 Domains</th>
<th>Survey Items</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhinologic Symptoms</td>
<td>#1, #2, #3, #6, #21, #22</td>
<td>0-30</td>
</tr>
<tr>
<td>Extra-Nasal Rhinologic Symptoms</td>
<td>#4, #5, #6</td>
<td>0-15</td>
</tr>
<tr>
<td>Ear/Facial Symptoms</td>
<td>#2, #7, #8, #9, #10</td>
<td>0-25</td>
</tr>
<tr>
<td>Psychological Dysfunction</td>
<td>#14, #15, #16, #17, #18, #19, #20</td>
<td>0-35</td>
</tr>
<tr>
<td>Sleep Dysfunction</td>
<td>#11, #12, #13, #14, #15</td>
<td>0-25</td>
</tr>
</tbody>
</table>

Table 1: Categorised survey items of the SNOT-22 questionnaire according to subdomains described by DeConde et al. #1 Need to blow nose, #2 Sneezing, #3 Runny nose, #4 Cough, #5 Post nasal discharge, #6 Thick nasal discharge, #7 Ear fullness, #8 Dizziness, #9 Ear pain/ pressure, #10 Facial pressure/ pain, #11 Difficulty falling asleep, #12 Waking up at night, #13 Lack of a good night's sleep, #14 Waking up tired, #15 Fatigue during the day, #16 Reduced productivity, #17 Reduced concentration, #18 Frustrated/restless/irritable, #19 Sad, #20 Embarrassed, #21 Sense of taste/smell, #22 Blockage/congestion of nose

Discussion/Key points:
• This is the first study assessing the relationship between the size and position of NSP with sinonasal symptoms and impact on quality of life utilising a validated Patient Reported Outcome Measures (PROM), the SNOT-22 tool. 6

• Although size and position of NSP did not significantly correlate with SNOT-22 scores, the scores were comparable to other patients diagnosed with chronic rhinosinusitis, empty nose syndrome or neurogenic facial pain syndromes. 7

• Wider A-P diameter and more posteriorly placed NSP resulted in a reduction in NSP-specific symptoms.

• For cases where complete closure was not possible or would not have a high degree of successful outcome, prioritising closure of the anterior part of NSP can potentially reduce symptoms.

• Position of NSP was defined using the columella as a reference point given its relative ease to measure the distance to the anterior edge of the perforation.

Results:
• Forty patients (22 males)
• Most common aetiology – iatrogenic
• SNOT-22 score vs size and position of NSP → Not significant

Conclusion:
The data presented has significant clinical implications as it provides insight into the quality of life impact of NSP and affirms clinical observation that anterior NSP are more symptomatic.

References:
2. Hopkins C. Patient reported outcome measures in rhinology. Rhinology 2009, 47: 10-7