Background: Velopharyngeal insufficiency (VPI) is characterized by an abnormal speech production in which the nasal and oral cavities are not efficiently separated. Children with submucous clefts and pharyngeal pouches may have a relevant post-operative morbidity in terms of pain, bleeding risk and obstructive sleep apnoea. Augmentation of the posterior pharyngeal wall obtained by implants is a straightforward and minimally invasive procedure that improves significantly speech quality in patients with VPI. It can be an alternative to velopharyngoplasties for cases of mild/moderate VPI.

Methods: Ten patients (see Table 1) with mild/moderate VPI secondary to submucous cleft (1), short palate (2), or previous cleft palate surgery (7). Nasoendoscopy revealed a reduction in the closure gap in all patients. Follow-up is 4-19 months (see Tables 1-2). Nasoendoscopic views in patient n. 2. A. Preoperative velopharyngeal closure gap during speech. B. 9 months after 1st fat injection: a residual gap is visible; C: 9 months after 2nd fat injection: complete velopharyngeal closure.

RESULTS

Patient | Age (years) | VPI etiology | N. procedures | Injected amount (cc) | Follow-up (months)
---|---|---|---|---|---
1 | 3 | Cleft palate | 1 | 5 | 12
2 | 4 | Cleft palate | 1 | 5 | 12
3 | 4 | Cleft palate | 1 | 5 | 12
4 | 5 | Cleft palate | 1 | 9 | 12
5 | 6 | Cleft palate | 1 | 9 | 12
6 | 8 | Short palate | 2 | 8/5 | 2
7 | 8 | Short palate | 2 | 9/1 | 2
8 | 9 | Short palate | 2 | 8/5 | 2
9 | 10 | Short palate | 2 | 9/1 | 2
10 | 10 | Submucous cleft | 1 | 3 | 6

The perceptual evaluation demonstrated improved speech intelligibility and resonance and reduced nasal air leakage in all patients (p<0.05). The aerodynamic assessment showed a significant reduction of nasal airflow during speech (p<0.05). Follow-up is 4-19 months (see Tables 1-2). Nasoendoscopic views in patient n. 2. A. Preoperative velopharyngeal closure gap during speech. B. 9 months after 1st fat injection: a residual gap is visible; C: 9 months after 2nd fat injection: complete velopharyngeal closure.

CONCLUSIONS

Fat injection performed circumferentially in the vocal and pharyngeal walls is a straightforward and minimally invasive procedure that improves significantly speech quality in patients with VPI. It can be an alternative to velopharyngoplasties for cases of mild/moderate VPI.

REFERENCES


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