FAT INJECTIONS FOR THE TREATMENT OF VELOPHARYNGEAL INCOMPETENCE IN SYNDROMIC CHILDREN

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CONCLUSION

Autologous fat injection represents an effective, minimally invasive, versatile procedure for the management of velopharyngeal incompetence (VPI) also for syndromic children; it can be performed in a tailored way, avoids major surgery and minimizes the risk of complications.

Objectives: Surgical management of Velopharyngeal Incompetence (VPI) aims at improving voice resonance by restoring a competent VP port. This study evaluated the effectiveness of fat injections in treating VPI in syndromic children, commonly considered with unfavorable prognosis for VPI management. Methods: The study involved 4 patients (aged 5-13) with mild/moderate VPI secondary to cleft palate/VP hypotonia, 3 affected by 22q11.2 deletion syndrome, 1 by Kabuki syndrome. In this last case concurrent tonsillotomy was performed. Pre- and postoperatively evaluation included: - nasoendoscopic assessment of the VP gap; - perceptual evaluation of speech intelligibility by a 5-point scale (0 = no disturbance; 4 = severe disturbance); - hypernasality and nasal air escape scoring by a 4-point scale; - measurement of the ratio between nasal airflow and total exhaled airflow during phonation. Fat was obtained by liposuction and the lipoaspirate was purified according to Coleman to remove blood, cell debris and the oily layer. Patients were injected 3.5-8.0 ml of refined fat in the posterior, lateral pharyngeal walls and soft palate under general anesthesia with a blunt cannula under direct video-endoscopic vision exposing the nasopharynx by a Dingman mouth gag and by a rigid 70° telescope.

Results: Nasoendoscopy showed a reduction in the closure gap in all four patients, and the perceptual evaluation demonstrated improved speech intelligibility and resonance and reduced nasal air leakage (p<0.005). The aerodynamic assessment showed decreased nasal airflow during phonation (p<0.05). Follow-up is 6-36 months.

References:

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