Acquired Hemifacial Microsomia: Combined TMJ and Orthognathic Surgery in a Patient with Neurofibromatosis Type 1

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Background

**CC:** “My bite feels off, have difficult time chewing, and don’t like the way my smiles looks.”

**HPI:** 24F dependent with a history of facial asymmetry, malocclusion, and acquired hemifacial microsomia secondary to neurofibromatosis type 1 and treatment sequelae, including removal of a plexiform neurofibroma as an infant complicated by right hemifacial paresis (House Brackmann 5)

**PMH/PSH:** NF1 (neurofibromas, café-au-lait spots, lisch nodules, axillary freckling), scoliosis, chronic pain, R-sided conductive hearing loss (BAHA since 2017), hemifacial paresis; Plexiform neurofibroma excisions right cheek, right neck, right EAC, right occiput; occipital reconstruction w/ Ti mesh; left VP shunt; BAHA

**References**

- Ronald S. Fishman, MD; Adriana Da Silveira, DDS, MS, PhD. Lincoln's Craniofacial Microsomia: Three-dimensional Laser Scanning of 2 Lincoln Life Masks. 2007;125(8):1126–1130. doi:10.1001/archopht.125.8.1126

**Conclusions**

- VSP optimizes surgical outcomes in cases of extreme facial asymmetry.
- Pre-operative embolization reduces intra-operative blood loss in hemifacial microsomia TMJ TJR.
- Combined TMJ Orthognathic Surgery is a predictable outcome with appropriate risk stratification prior to definitive soft tissue reconstruction.

Figure 1. 1st report of mosaicin for complete NF1 gene identified by FISH

Figure 2. Pre-Operative Panoramic Radiograph

Figure 3. Pre-Operative Photography

Figure 4. VSP TMJ/Orthognathic Surgical Plan

Figure 5. VSP Lateral Orbital Implant

Figure 6. TMJ Concepts Prosthesis

Figure 7. Pre-op Embolization

Figure 8. Post-Op 3D Reconstruction, CT

Figure 9. 3mo Post-operative Photography