

## WHY PATIENTS WITH NEUROFIBROMA DON'T NEED ALLOTRANSPLANTATION

**Purpose:** The dramatic few patients with neurofibroma (NF) who have undergone facial allotransplantation have captured headlines, but have these patients succumbed to a false solution over the longterm and is there a novel option that provides consistent non-recurrence of plexiform NF, a disease of historic pessimism? Recent experience with radical, nerve mapped tumor excision and subsequent standard craniomaxillofacial reconstruction may suggest that patients should defer allotransplantation and its large inherent risks of immunosuppression, infection, and high-risk surgery of composite tissue grafting.

**Method:** A 10 year retrospective study of 37 cases of benign but severe NF involving craniofacial, truncal and limb distribution was performed with a minimum of 10 months follow-up (average follow up of thirty five months). Patient ages were four to seventy two years. Study information included area of tumor involvement, recurrence rate, pre and post-op physical exams, photographs and CT and MRI exams.

**Results:** Complications included one post-operative intracranial bleed (non-adjacent to the operative site), a femoral artery transection with vein graft reconstruction, and one failed nerve graft reconstruction of an intentional facial nerve branch transection. There were notably no deaths and no tumor recurrences in areas of resection. There were no unintentional facial or other motor nerve injuries. Tumor size ranged from 200 gms. to 85 kg. Usual craniofacial reconstruction included cranial bone graft with Titanium mesh of the sphenoid greater wing, reconstruction of orbital height and width, and zygomatic reconstruction.

**Conclusions:** Radical surgical excision of plexiform NF tumors, including their pathologic nerve pathways emanating from the CNS, can produce non-recurrence, apparently permanent. Craniofacial reconstruction with autologous tissue can completely satisfy the reconstructive needs of these patients without resort to composite tissue allotransplantation and the multiple risks of immunosuppression in this relatively young population. Early, radical surgery is preferable to delay and development of permanent functional injury. Finally, the historic pessimism regarding surgery as a permanent treatment of NF deserves a re-examination in light of these findings, and strongly suggests the further investigation by other teams interested in the treatment of NF.

