ences between children with NF1 and controls were greater at younger than older ages. CONCLUSION: Microstructural differences were observed in WMTs in children with NF1 compared to controls. These differences were not explained by intracranial volume and were most pronounced in younger children with NF1 compared to controls. These findings have implications for understanding neurocognitive deficits and gliomagenesis observed in children with NF1.

NFB-12. TRAMETINIB THERAPY FOR PEDIATRIC PATIENTS WITH REFRACTORY LOW GRADE GLIOMA OR EXTENSIVE SYMPTOMATIC PLEXIFORM NEUROFIROMA
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OBJECTIVE: To evaluate the safety and efficacy of trametinib in children with refractory low-grade glioma or extensive symptomatic plexiform neurofibromas. Patients and Methods: This is a single-arm, open-label, multi-center, single-treatment cohort clinical trial. 31 children with refractory low-grade glioma (LGG) or plexiform neurofibromas (PNF) were enrolled and treated with trametinib at a dose of 0.025 mg/kg daily. Overall response rate (ORR) was defined by the Developmental Therapeutics Program (DTP) criteria. Results: The ORR was 67% (21/31) and the disease control rate (DCR) was 84%. Median duration of response (assessed every 3 months) was 17 months (range, 1-77). Ten patients (32%) had disease control for >1 year. At the time of this presentation, 12 patients were still in treatment. Adverse events (AEs) were reported in 27 patients. Treatment-related AEs were reported in 17 patients and included rash, acne, photosensitivity, alopecia, hyperpigmentation, and lymphadenopathy. Two patients withdrew from the study due to the development of drug-resistant tumors. Conclusions: Trametinib demonstrates clinical efficacy in children with refractory gliomas and plexiform neurofibromas, with the majority of patients continuing to respond and control disease.