QOS-55. IMPROVEMENT IN VISUAL ACUITY OF PEDIATRIC PATIENTS WITH BRAIN TUMORS TREATED WITH BEVACIZUMAB
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BACKGROUND: Bevacizumab, a monoclonal antibody that targets vascular endothelial growth factor, has been shown in a small series of children with vision loss associated with optic pathway gliomas (OPG) to produce marked vision recovery. METHODS: A retrospective record review of pediatric patients who had poor visual acuity or visual field loss and received bevacizumab at a single institution was performed. RESULTS: Twelve patients (6:6, male:female) received bevacizumab for poor visual acuity or vision field loss. Median age of patients was 8.9 years (range, 1.3-21.5 years). Eight patients had OPGs (five with neurofibromatosis type 1), two patients had craniopharyngioma, and two had other brain tumors with vision loss due to hydrocephalus at diagnosis. A median of 10 doses of bevacizumab was administered per patient (range, 4-19 doses). Median time from tumor diagnosis to start of bevacizumab was 1.0 year (range, 0.1-12.9 years). Fifty percent of patients (4 OPG, 1 craniopharyngioma, and 1 glioneuronal tumor) experienced improvement in visual acuity in at least one eye. Five (three of whom experienced improvement in visual acuity) patients also received concurrent chemotherapy at the time of bevacizumab therapy. Bevacizumab was tolerated well overall in this series of patients. Four patients experienced transient toxicities (proteinuria, hypertension, and headaches). CONCLUSIONS: Bevacizumab does appear to improve visual acuity in some children with vision loss associated with injury to the optic apparatus from tumor or hydrocephalus. A clinical trial to investigate the role of bevacizumab in vision recovery for pediatric brain tumor patients is indicated.