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EPEN-13. PRE-IRRADIATION CHEMOTHERAPY EXPERIENCE FOR PEDIATRIC EPENDYMOMA POLISH PROTOCOL

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BACKGROUND: Pediatric ependymomas are aggressive central nervous system malignancies arising from the ependymal linings of ventricles and spinal canal. Despite better understanding of tumor biology ependymomas remain therapeutic challenge in pediatric neurooncology. The role of chemotherapy remains controversial. Herein, we describe the outcomes of patients treated at the largest center in Poland who underwent surgery, pre-irradiation chemotherapy and irradiation regardless of extent of surgical resection. METHODS: This retrospective review includes pediatric patients with ependymoma treated according to national protocol at the Children’s Memorial Health Institute. We reviewed histology, disease extent, treatment, and report on overall survival (OS) and progression free survival rates (PFS). Descriptive statistics were analyzed using SPSS software. RESULTS: Forty-nine patients were included (median age: 84 months). Most patients (96%) had cranial ependymomas (43% supratentorial and 57% posterior fossa lesions). Disseminated disease was found in 16% of cases. Complete resection was achieved in 43%. All patients received pre-irradiation chemotherapy; 61% had progressive disease and 41% achieved complete response (CR). All patients, except one, underwent irradiation (67% focal, 2% focal/ventricular, 29% craniospinal, and 2% whole brain). Thirty-five percent of patients relapsed. Five-year PFS and OS were 69% and 80% respectively. Comparing posterior fossa to supratentorial lesions, there was no difference in response after surgery and pre-irradiation chemotherapy (CR 37% versus 50% (p=0.51)) or irradiation (CR 42% versus 55% (p=0.37)). However, relapse was more likely in posterior fossa ependymomas (OR 0.30 IQR (0.70, 1.29), p=0.03) with lower 5-year PFS (56% versus 85%, p=0.03) and 10-year PFS (32% versus 85%, p=0.02). The benefit of chemotherapy was marked in patients with Grade 3 (5-year OS 82% versus 69%) CONCLUSIONS: We describe a large cohort of pediatric ependymoma patients who received pre-irradiation chemotherapy. This strategy did not negatively impact the incidence of progression before irradiation.