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MDB-31. THE CLINICAL SIGNIFICANCE OF SUB-TOTAL SURGICAL RESECTION IN CHILDHOOD MEDULLOBLASTOMA: A MULTI-COHORT ANALYSIS OF 1100 PATIENTS

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BACKGROUND: Medulloblastoma patients with sub-total surgical resection (STR; >1.5 cm^2 primary tumour residuum) typically receive intensified treatment. However, the association of STR with poor outcomes has not been observed consistently, questioning the validity of STR as a high-risk disease feature. METHODS: We collected extent of resection (EOR) data from 1110 patients (UK CCLG centres (n=416), published cohorts (n=694)), the largest cohort with clinico-molecular annotation assembled to specifically assess the significance of EOR to date. We performed association and survival analyses, assessing overall survival (OS) cohort-wide with reference to the consensus medulloblastoma molecular groups and clinico-molecular features. RESULTS: STR was reported in 20% (226/1110) of the cohort and was enriched in patients (i) <5 years at diagnosis (p=0.021), (ii) with metastatic disease (p<0.0001) or (iii) with non-WNT tumours (p=0.047). In cohort-wide analysis, STR was associated with worse survival in univariable analysis (p<0.0001), though, outcomes for patients with STR as their only risk-feature were as per standard-risk disease. Examination of specific disease contexts showed STR was prognostic in univariate analysis for patients (i) receiving cranio-spinal irradiation (CSI) and chemotherapy (p=0.016) and (ii) with Group 3 tumours receiving CSI (p=0.039). In non-metastatic CSI treated patients, STR was not prognostic, independent of CSI dose. Crucially, STR was not independently prognostic in multivariable analyses when considered alongside established clinico-molecular high-risk features. CONCLUSIONS: In a cohort of 1100 molecularly characterised medulloblastoma patients, STR (n=226) predicted significantly lower OS in univariable analysis, but was not an independent prognostic factor. Our data suggest that maximal safe resection can continue to be carried out for patients with medulloblastoma and suggest STR should not inform patient management when observed as a sole, isolated risk feature. These findings provide necessary evidence to inform the selection criteria for forthcoming risk-adapted medulloblastoma clinical trials.