Memory impairment and neurocognitive deficits reduce the health-related quality of life in medulloblastoma survivors

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Abstract

Background Survivors of childhood medulloblastoma are particularly susceptible to late effects because of the location of the tumour and the treatment required to achieve a cure. Living with these long-term toxicities is challenging and greater understanding of the impact of the disease and treatment have on health-related quality of life (HRQoL) is needed. Procedure We report a cross-sectional study to assess patient HRQoL outcomes for 52 long-term survivors of medulloblastoma aged 1–25 years of age at diagnosis and treated during a ten-year period at The Royal Marsden Hospital. Child self-reports and parent – proxy reports of PedsQL scores correlate with clinical information, long-term toxicity (assessed using CTCAE) and neurocognitive assessment (using WISC-IV) to examine the impact that disease and treatment have on HRQoL after treatment. Results Reported late toxicities included ataxia (62%), hearing impairment (59%), endocrine disorders (57%) and memory impairment (44%). Reduced HRQoL outcome scores for patients showed a significant correlation with reduced verbal comprehension (0.51; p=0.025), and processing speed (0.5; p=0.04). Memory impairment showed significant association with the cancer module PedsQL (p=0.024) scores. Parents’ perception of their child’s quality of life was lower than the patient’s self-assessment (mean 55.9 for parents and 63.8 for patients, p=0.004). Conclusions The findings from this study confirm the impact of late toxicities and neurocognitive sequelae on HRQoL in patients previously treated for medulloblastoma in childhood and adolescence. In particular verbal comprehension, processing speed and memory impairment influence patient reported outcomes in this cohort.

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