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Abstract

AIM: To provide a profile of second malignant neoplasms (SMN) in patients with childhood primary malignant brain tumour originating from neuroepithelial tissues with latest data in a population-based study.

METHODS: Surveillance, Epidemiology, and End Results (SEER) database (1973-2007) was used to identify above-stated patients. SMN patients were further identified, and standardised incidence ratios (SIRs) and excess absolute risks (EARs) for risk-factor-decided subgroups were calculated. Univariate and multivariate analyses of the association between cumulative incidence of SMN and the risk factors were performed in the whole population.

RESULTS: A total of 106 patients were identified as having SMNs. EARs peaked at age at primary diagnosis of 10-14. Males had higher SIRs and EARs than females. Both SIRs and EARs increased after 1990. Age was statistically significant in both univariable and multivariable analyses for cumulative incidence of SMN and RT was not significant in both the analyses, in the whole population of 9075 patients. After follow-up recalculation, matched patients in the ≥1990 group had slightly shorter median interval between primary and secondary cancer than those in the <1990 group, but with no significance.

CONCLUSION: The risk of SMN in children with primary malignant brain tumours in a more advanced treatment era might have changed. During making further advances in the treatment of these neoplasms, minimising toxicities while maintaining promising prognostic outcomes will keep being our goal.


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