

Atypical teratoid rhabdoid tumor treatment

In agreement with the latest international protocols, multidisciplinary treatment is the ideal treatment, consisting of radiotherapy and chemotherapy after complete tumor resection ¹⁾.

There is no current standard treatment for children with [atypical teratoid rhabdoid tumor](#). Multimodal treatment consisting of surgery, chemotherapy, and radiation therapy is under evaluation ²⁾.

A study evaluated the prognostic value of early radiotherapy (RT) and high-dose chemotherapy with autologous stem cell rescue (HDC/ASCR) in pediatric ATRT.

This pooled analysis included ATRT patients treated at our institution and from other studies who were identified by a search of the PubMed electronic database. The effect of patient demographics and treatment profiles on progression-free survival (PFS) and overall survival (OS) were analyzed using Cox regression.

Overall, 34 patients from our institution and 436 patients from 35 published studies were included. In multivariable analysis, patients with gross total resection (GTR), early RT (time to RT interval < 2 months), and HDC/ASCR had both better PFS [hazard ratio (HR) 0.46, p [Formula: see text] 0.001; HR 0.64, $p = 0.011$; and HR 0.51, $p = 0.005$, respectively] and OS (HR 0.55, $p = 0.002$; HR 0.48, $p = 0.004$; and HR 0.42, $p < 0.001$, respectively). For patients aged < 3 years, both RT and HDC/ASCR were significant favorable factors for PFS (HR 0.32 and 0.46, respectively) and OS (HR 0.40 and 0.36, respectively), while early RT was not prognostic. For patients aged ≥ 3 years, early RT was significantly associated with better PFS (HR 0.51) and HDC/ASCR did not affect PFS, and neither was related to OS.

Both early RT initiation and HDC/ASCR were important components in the treatment of pediatric ATRT. However, the optimal treatment strategies might differ by age ³⁾.

Radiotherapy seems to prolong survival; however, large-scale studies are needed to establish prognostic factors ⁴⁾.

For Yang et al., early and aggressive RT after surgery is critical for successful disease control in AT/RT patients. Conversely, a delay in RT until disease progression is observed that leads to unfavorable outcomes ⁵⁾.

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