Pediatric intracranial tumor outcome

Pediatric intracranial tumor outcome has improved for last a few decades. However, the prognosis remains dismal in patients with recurrent brain tumors. The outcome for infants and young children in whom the use of radiotherapy (RT) is very limited because of the unacceptable long-term adverse effect of RT remains poor. The prognosis is also not satisfactory when a large residual tumor remains after surgery or when leptomeningeal seeding is present at diagnosis.

In this context, High dose chemotherapy and autologous stem cell transplantation has been explored to improve the prognosis of recurrent or high-risk brain tumors. This strategy is based on the hypothesis that chemotherapy dose escalation might result in improvement in survival rates. The efficacy of tandem HDCT/auto-SCT has been evaluated in further improving the outcome. This strategy is based on the hypothesis that further dose escalation might result in further improvement in survival rates. At present, the number of studies employing tandem HDCT/auto-SCT for brain tumors is limited. However, results of these pilot studies suggest that tandem HDCT/auto-SCT may further improve the outcome [1].

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Sung KW, Lim DH, Shin HJ. Tandem High-dose Chemotherapy and Autologous Stem Cell Transplantation in Children with Brain Tumors : Review of Single Center Experience. J Korean Neurosurg Soc. 2018 May;61(3):393-401. doi: 10.3340/jkns.2018.0039. Epub 2018 May 1. Review. PubMed PMID: 29742883; PubMed Central PMCID: PMC5957321.