Pineoblastoma Treatment

Pineoblastomas (PBs) represent the most aggressive of the pineal parenchymal tumors. Routine treatment consists of operative management of obstructive hydrocephalus and cerebrospinal fluid studies followed by maximal resection and adjuvant chemotherapy/radiotherapy, resulting in a median survival of 20 months. Important prognostic factors for survival of patients with PB include extent of resection, age at presentation, disseminated disease, and craniospinal radiotherapy. Novel strategies being evaluated for the treatment of PB include high-dose chemotherapy with autologous stem cell therapy, stereotactic radiosurgery, and histone deacetylase inhibitors [1].

A multimodality approach is needed to treat this aggressive disease. Inadequate dose intensity affected our patients' outcome negatively. A more aggressive approach using high-dose chemotherapy or CSI may be required to improve infantile pineoblastoma's dismal outcome. Focal radiotherapy is not an efficacious treatment in infants due to its high-metastatic potential. Molecular typing should be considered to label patients who need a more intensified approach [2].

In the pediatric group, surgery with postoperative radiotherapy and chemotherapy was a favorable factor for overall survival. In the adult group, a positive trend in overall survival was found when patients received radiation and/or chemotherapy following surgery [3].

Evidence in literature for adults is scarce and mainly derives from the paediatric practice. For their clinical behaviour and embryonal histology, PBs are often grouped together with medulloblastomas in clinical trials. Gaito et al. described an adult PB case who was treated at the institution. We reference the literature to explain the clinical reasoning behind our decision-making process. A 46-year-old male patient was referred in November 2015 with three months history of headache. Imaging confirmed localised disease of the pineal gland. He underwent surgery which was radical and clinically uncomplicated. Histology showed PB. He then received adjuvant craniospinal irradiation with a boost to the tumour bed followed by consolidation chemotherapy. After 36 months follow-up, he remains disease-free without significant toxicities. Surgery followed by craniospinal irradiation and consolidation chemotherapy can be a safe and effective treatment option in adult PBs [4].

1)
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