Pediatric intracranial tumor treatment

Treatment considerations for unusual pediatric brain tumors include a comprehensive multidisciplinary approach, including community-based screening and proper referral system for early treatment, a variety of treatment modalities, and sophisticated follow-up strategy. Government shall work in coherence with tertiary centers to spread social awareness and provide various financial scheme to prevent treatment dropouts [1].

The endoscopic endonasal approach provides favorable neurological outcomes with acceptable risk for children with pediatric intracranial tumors. The high incidence of endocrinological deficits in cases with hypothalamus-pituitary lesions emphasizes the importance of judicious pre- and postoperative evaluation [2].

Malignant brain tumors represent a true therapeutic challenge in neurooncology. Before the era of modern imaging and modern neurosurgery these malignant brain tumors were misdiagnosed or could not benefit of the surgical procedures as well as older children because of increased risks in this age group.

The pediatric oncologists are more often confronted with very young children who need a complementary treatment. Before the development of specific approaches for this age group, these children received the same kind of treatment than the older children did, but their survival and quality of life were significantly worse. The reasons of these poor results were probably due in part to the fear of late effects induced by radiation therapy, leading to decrease the necessary doses of irradiation which increased treatment failures without avoiding treatment related complications.

At the end of the 80s, pilot studies were performed using postoperative chemotherapy in young medulloblastoma patients. Van Eys treated 12 selected children with medulloblastoma with MOPP regimen and without irradiation; 8 of them were reported to be long term survivors.

Subsequently, the pediatric oncology cooperative groups studies have designed therapeutic trials for very young children with malignant brain tumors.

Different approaches have been explored:

* Prolonged postoperative chemotherapy and delayed irradiation as designed in the POG (Pediatric Oncology Group).

* Postoperative chemotherapy without irradiation in the SFOP (Société Française d'Oncologie Pédiatrique) and in the GPO (German Pediatric Oncology) studies.

see High dose chemotherapy and autologous stem cell transplantation

Immunotherapy for pediatric intracranial tumor treatment

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1)

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2)

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