Skull base chondrosarcoma outcome

Chondrosarcomas are relatively slow growing but locally aggressive. Local resection is often the treatment of choice. Radiotherapy may sometimes be employed although sensitivity is thought to be minimal. Metastatic spread is uncommon.

High-dose, double-scattered 3D conformal proton therapy alone or following surgical resection for skull-base chondrosarcoma is an effective treatment with a high rate of local control with no acute grade 3 radiation-related toxicity [1].

In 2010 Bloch et al. published an extensive systematic review of the English literature. The patients were stratified according to treatment modality, treatment history, histological subtype, and histological grade, and the recurrence rates were analyzed. A total of 560 patients treated for cranial chondrosarcoma were included. Five-year recurrence rate among all patients was 22% with median follow-up of 60 months and median disease-free interval of 16 months. Tumor recurrence was more common in patients who only received surgery or had mesenchymal subtype tumors [2].

Pencil-beam scanning proton therapy is an effective treatment for skull base tumors with acceptable late toxicity. Optic apparatus and/or brainstem compression, histology and gross tumor volume (GTV) allow independent prediction of the risk of local failure and death in skull base tumor patients [3].

Dibas et al. aimed to evaluate the incidence and survival rates and trends of skull base chondrosarcomas (SBC).

Data from SBC patients between 1975 and 2017 were extracted from the Surveillance, Epidemiology, and End Results (SEER) database. The age-adjusted rates (AAR) were calculated for the overall cases and based on gender, age, race, and histology. Furthermore, the relative survival rates for one, three, and five years, and the rates stratified to the aforementioned selected variables were computed. Besides, they conducted a joint point regression analysis to calculate the annual percent change (APC) and its associated standard error (SE) for AAR and mortality.

The AAR rate of SBC was 0.019 per 100,000. Higher AAR rates were observed in patients who were in the 65-74-year-age-group, females, Caucasians, and had none mesenchymal subtype. The relative one-year, three-year and five-year-survival rates were 99.58 %, 93.67 %, and 89.10 %, respectively. Lower survival rates were noted in patients who were males, African Americans, and had a mesenchymal subtype. The trend analysis has shown a significant yearly increase ($P < 0.001$) in AAR of SBC (APC ± SE = 0.0005 %±0.0001), along with a significant yearly decline in mortality rates (APC ± SE= -0.0202 %±0.0029).

Despite the increase in AAR over time, there has been a significant decline in mortality rates over time, which might have been due to the advancement of treatment modalities, improvement in diagnostic imaging, and modification in disease grading [4].

References

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