ONCODAILY MEDICAL JOURNAL

abstract

Radiotherapy Outcomes in Pediatric Brainstem Gliomas: Insight from Specialized Radiotherapy Centre from Khyber Pakhtunkhwa Pakistan

Imran Farooq, Aakif Ullah Khan

doi.org/10.69690/ODMJ-018-0425-3242

POEM, 4th Scientific Meeting,
Amman Jordan

ONCODAILY MEDICAL JOURNAL

SIOP ASIA 2025 SAUDI ARABIA

Radiotherapy Outcomes in Pediatric Brainstem Gliomas: Insight from Specialized Radiotherapy Centre from Khyber Pakhtunkhwa Pakistan

Author: *Imran Farooq, Aakif Ullah khan*
Affiliation: *IRNUM Cancer Hospital*

DOI: *https://doi.org/10.69690/ODMJ-018-0425-3242*

Introduction: Brainstem gliomas, particularly diffuse intrinsic pontine gliomas (DIPG), represent one of the most aggressive and therapeutically challenging pediatric central nervous system tumors. Treatment options are limited in low-resource settings like Khyber Pakhtunkhwa (KP), Pakistan, and access to specialized pediatric radiotherapy facilities is sparse. This retrospective analysis aims to present radiotherapy outcomes and challenges for pediatric patients treated for brainstem gliomas at a specialized oncology center in KP.

Methodology: Data from 2015 to 2024 were reviewed, focusing on clinical presentations, radiotherapy protocols, treatment responses, and survival outcomes. Standard fractionation with total doses ranging from 54 to 60 Gy was administered using LINAC and Co-60-based external beam radiotherapy.

Results: Symptom relief was observed in 75% of patients within the first month of treatment. However, the overall median survival remained at 10 months, consistent with global data for this disease. Treatment adherence and follow-up were impacted by geographical, financial, and logistical barriers.

Conclusion: This study underscores the need for enhanced pediatric neuro-oncology services, including dedicated radiotherapy units and improved supportive care frameworks in KP. Collaboration between national healthcare authorities and international oncology bodies is essential to improve outcomes through advanced radiotherapy techniques, clinical trials, and comprehensive care strategies.