ANALYSIS OF NEUROCOGNITIVE SEQUELAE IN BRAIN TUMORS SURVIVORS

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INTRODUCTION

Neurocognitive sequelae due to brain tumors and their treatment have been known in the last decades, when survival after these diseases improved. Rehabilitation of these sequelae in the pediatric age is desirable and feasible. We are interested on designing an individualized neurocognitive rehabilitation program for our patients; however, first, we need to know patient´s status after therapy and this is the initial study we conducted for that.

PATIENTS AND METHODS

✓ **PATIENTS**: Children diagnosed with brain tumors and treated in our institution (Pediatric Oncology Unit, Neurosurgery, Radiotherapy) from 1990.

TYPE OF STUDY: propective, unicentric, not randomized.

✓ **METHODS:**

1. Demographic data collection from the clinical report (age, sex, type and location of the tumor, type of treatment).
2. Neurological examination.
3. Strength Difficulties Questionnaire, answered by the patient (when age over 11 y.) or by the parents (when age under 11).
4. Weschler scales:
   - WPPSI from 4 to 5 years.
   - WISC-R from 6 to 15 years.
   - WAIS-III over 16 years.
5. Quality of Life test (La Fe, Barahona) Now in validation process.

✓ Points 3, 4 and 5 were performed by trained psychologists (BJ, BA).

RESULTS

✓57 children, assessed with:

Wechsler: n=46,
SDQ: n=49,
Quality of Life: n=52

Time from Dx to Evaluation: 0-12 y (Median: 4 years)

31 Boys (54.4%) and 26 girls (45.6%).

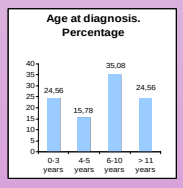
- Histology: 24 LGG (42.1%), 23 PNET (40.4%), 10 Others (17.5%)

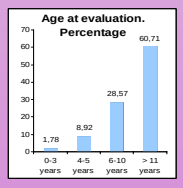
-Location of the tumor: 26 Cerebellum (46%), 8 Supratentorial (14%),

5 Optic Pathway (9%), 11 Midline (19%), 4 Brainstem (7%), 3 Others (5.3%)

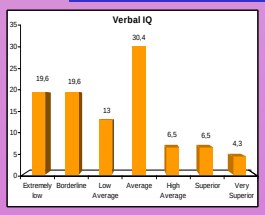
-Protocol: 2 PPQ-92 (3.5%), 6 SIOP LGG (10.5%), 16 SIOP PNET III (28.1%),

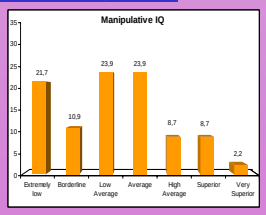
2 8:1 (3.5%), 26 Not protocolized (45.6%), 5 Others (8.8%)

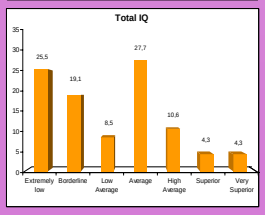


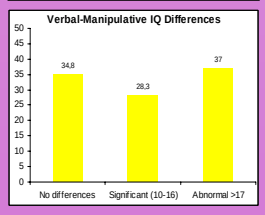


WECHSLER RESULTS. Percentage

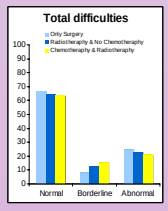


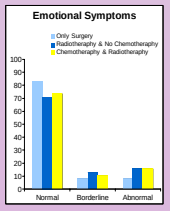


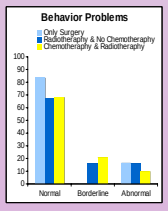


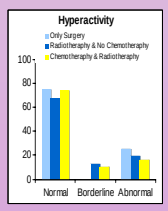


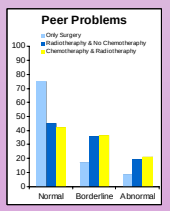
SDQ RESULTS. Percentage

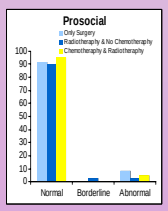




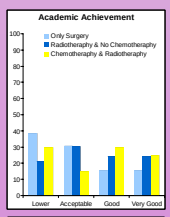


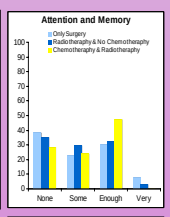


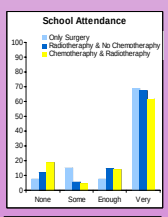


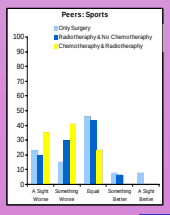


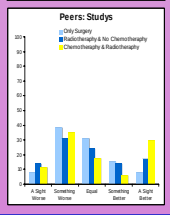
QUALITY OF LIFE RESULTS (Percentage)

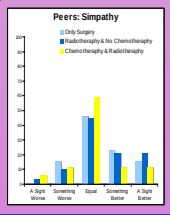


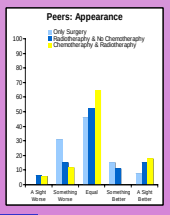












COMMENTARIES on RESULTS:

1. We found meaningful differences between verbal and manipulative IQ in 65% of patients. 37% of patients have abnormal IQ differences (over 17 point).
2. 10-25% Of Survivors have emotional, behavioural, hyperactivity and peer problems. Patients treated with multimodality Tx (S, R, Ch) have more problems with peers than patients treated only with S+R and only Surgery.
3. 1/3 of patients refer attention and memory difficulties at school. 50% of patients think that their academic achievement is low and 25% don't go regularly at school.
4. When they compared themselves with their peers, 41% think that they perform worse in sports, and 39% at school .
5. Only 18% think that their physical appearance is worse than their peers and 70% of our patients think they are nicer and more friendly.

CONCLUSIONS:

✓Although the sample is small and the study is still ongoing, preliminar analysis shows that Wechsler scales and SDQ offer general information about the neurocognitive status of our patients.

✓We need to clarify the role of different treatment, including surgery alone, in our patients´neurocognitive status. More refined measures and sequential studies are needed in order to develop a neurocognitive individualized rehabilitation program to overcome these deficits.