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Treatment Outcome in Children with Low Grade Glioma and Neurofibromatosis Type 1 and Non-Neurofibromatosis Type 1

Antonio Ruggiero^{1*}, Anastasia Campanelli¹, Palma Maurizi¹, Daniela Rizzo¹, Luca Massimi², Massimo Caldarelli², Stefano Mastrangelo¹ and Giorgio Attina¹

¹Pediatric Oncology Unit, Fondazione Policlinico Universitario A. Gemelli IRCCS, Catholic University of Rome, Italy

²Paediatric Neurosurgery, Fondazione Policlinico Universitario A. Gemelli IRCCS, Catholic University of Rome, Italy

Background: Low-grade gliomas are the most common paediatric brain tumours and they can affect up to 20% of the subjects with Neurofibromatosis type 1 (NF1). The NF1-related gliomas appear to have a different clinical behaviour compared to the sporadic cases.

Patients and methods: Consecutive 60 children with low grade glioma were registered (42 sporadic cases and 18 cases with NF1) were treated. Thirty-nine patients (28 sporadic cases and 11 cases with NF1) underwent exclusive or post-surgical chemotherapy (with a Vincristine /Carboplatin-based regimen). The median follow-up was 5 years and 5 months.

Results: Brain MRI allowed the identification of patients with decreased and stable disease (according to RANO criteria). The disease reduction was achieved in 12 of 28 patients (42.8%) among sporadic cases and in 9 of 11 patients (81.8%) among those with NF1, with a statistically significant difference between the two groups ($p < 0.05$). The response to chemotherapy in both patient groups was not significantly influenced by gender, age, tumour site and histopathology, although the disease reduction occurred more frequently in children under 3 years-old.

Conclusions: Our study shows that paediatric patients with low-grade glioma and NF1 are more likely to respond to chemotherapy compared to non-NF1 patients.

Biography:

Prof. Ruggiero received his medical degree from the Catholic University in Rome in 1992. He holds Board of Pediatrics in 1996 and Board of Pediatric Haematology and Oncology in 1998 at the Catholic University of Rome. He is currently an associate professor in the Department of Pediatrics at the Catholic University of Rome where he is responsible for teaching Pediatrics and Pediatric Hematology and Oncology. Examples of activities include producing guidelines for prevention of healthcare associated treatments and improvements in basic safe medical practices. His research interests focus on pediatric clinical trials, clinical pharmacology of antineoplastic drugs, pain therapy and pediatric drugs.