Low-grade gliomas in older adults: treatment patterns and outcomes over the past fifty years

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Purpose/Objective: To identify changes in presentation, treatment and outcomes of older patients with low-grade glioma (LGG) over the past 50 years.

Materials and Methods: Records of adults aged 55 or older upon diagnosis at Mayo Clinic between 1960 and 2011 with WHO grade II LGG were reviewed. They were grouped by those diagnosed before (group I: 1960-1989) and after (group II: 1990-2011) the routine use of post-operative MRI.

Results: Of the 852 adults diagnosed with LGG in our database, 94 were aged 55 or older. Median follow-up was 11.4 years. Pathologic diagnoses included astrocytoma in 55.3%, mixed oligoastrocytoma in 18% and oligodendroglioma in 26.7%. Gross total resection (GTR) was achieved in 9.6%, radical subtotal resection (rSTR) in 6.4%, subtotal resection (STR) in 20.2% and biopsy only in 63.8%. More patients in the modern era received GTR/rSTR (19.7% versus 7.1%), though the difference was not statistically significant. Median progression-free survival (PFS) was 3.0 years, with 5- and 10-year PFS rates of 31% and 10%, respectively. Median, 5- and 10-year overall survival (OS) was 4.1 years, 43% and 17%, respectively. PFS and OS were not statistically significantly different (p > 0.05) between the disease free survival rates 72.4% and 39.7%. 3-year and 5-year local control rates were 72.4% and 39.7%. 3-year and 5-year local control rates were 88.0% and 85.8%. There was no significant statistical difference (p > 0.05) between the disease free survival rates for T1 and T2 tumors. There were no grade 3 and over adverse effects for the skin and lung during the acute and late phases. The grade 2 acute lung effect was observed in 3 patients whose prescribed dose was 34 GyE, 44 GyE, and 48GyE. Only one patient had the grade 2 acute and late skin effects, whose prescribed dose was 40 GyE.

Conclusions: We treated 70 patients, who were 80 years old and over, with single-fraction CIRT. Single-fraction CIRT could be considered safe and efficient treatment options for the elderly with stage I peripheral NSCLC.