Results. The overall survival rates were 100% and 92% at 2 and 5 years, respectively. Five of patients (41.6%) had history of oligodendroglioma GII and the median time to progression was 3.5 years. These patients belong to the 55.5% of patients diagnosed with a GII in this period of time. Two of them, had presented third relapse with median progression-free survival of 2 years. Only one patient had relapse with primary anaplastic oligodendroglioma with median time to tumor progression of 8 months and died in 2 years with fotemustine and avastin. This patient had 1p negative.

Conclusion. Based on WHO classification and prognostic factor, our combined treatment modality consisting of surgery, postoperative high-dose RT and chemotherapy based in Temozolamide for patients with anaplastic oligodendroglioma and oligoastrocytoma was effective. We should ask about other therapeutic strategy in patients with oligodendroglioma GII. We could think that patients with negative co-deletion higher risk of recurrence. Further studies are needed with more patients and longer follow-up to verify these results.

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## Prognostic factors for survival in medulloblastoma patients

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Background. Treatment approach in meduloblastoma (MB) has changed through the years. The purpose of this study is to assess the prognostic factors for survival of craniospinal irradiation (CSI) with different modalities of radiotherapy (RT) in MB patients. Materials and methods. The study was conducted for patients with primary MB treated with CSI from August 1996 through May 2012. Inclusion criteria included no prior history of RT and minimum follow up of 6 months for alive patients. Thirty-four patients (standard risk, N = 21; high risk, N = 13) met such criteria. Median CSI dose was 36 Gy in 20 fractions. The tumor bed received 50–60 Gy at 1.5–2 Gy/fraction. RT technique used was two dimensional RT (N = 11), three dimensional RT (N = 15), volumetric modulated arc therapy (VMAT; N = 3), and tomotherapy (N = 5). Toxicity was scored using the Radiation Therapy Oncology Group (RTOG) scoring system. Univariate and multivariate analyses were performed to define predictors for survival.

Results. The median age at diagnosis was 8 years (range, 2–43) and the median follow-up for alive patients (N = 20) 56 months (range, 9–198). Two and three-year overall survival was 74% and 65%, respectively. Twenty patients underwent complete surgical resection whereas 14 underwent partial resection. Eleven patients received postoperative chemotherapy (CT). Nine patients had grade  $\geq$ 3 hematological toxicity. Overall, 14 patients died. In the univariate analysis, leptomeningeal and cerebrospinal fluid spread at diagnosis, high risk stage, partial surgery, and CT before RT associated with higher risk of mortality (p < 0.05). In the multivariate analysis, only cerebrospinal fluid spread at diagnosis maintained significance (p = 0.004).

Conclusion. Several factors related to high risk MB patients, particularly cerebrospinal fluid spread at diagnosis, are associated with a higher risk of mortality. Further research is necessary to assess a better treatment approach in high risk MB patients in order to improve the outcome.

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## Survival of patients with high grade gliomas in our hospital

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*Objectives*. Treatment of high grade gliomas (HGG) have consisted in maximum surgical resection followed by RT concomitant with temozolomide (TMZ) followed by TMZ for six cycles. This retrospective study evaluates survival for patients with HGG treated in our institution.

Materials and methods. Data was collected from patient case notes. Statistical analysis was carried out using SPSS package. Results. Between January 2003 and June 2012, 119 patients with HGG were treated with. They received best supportive care if they had poor performance status. Histologically, 92% were GM, 4% AA, 4% AOA and 1% negative biopsy. Demographic data were as follows: 67 males (56%) and 52 females (44%). Median age was 67 years (range 24–91). 4% of the patients had no biopsy because age was over 80 years old or central tumor location. 86% of the patients had undergone debulking surgery, whereas in 10% just biopsy was performed. 81 (68%) patients received RT with median dose was 60 Gy (range 12–66). Of whom, 88% completed RT. 52 (44%) patients received concurrent radiochemotherapy and 42 (35%) adjuvant TMZ. The major causes to do not receive adjuvant RT-TMZ were biopsy procedure only or poor performance status (32% of the patients). Median follow-up time was 8 months



