

## NQPC-07

**IMMEDIATE POSTOPERATIVE REHABILITATION FOR PATIENTS WITH NEWLY-DIAGNOSED GLIOMA**

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**BACKGROUND:** Importance of early intensive rehabilitation is recently emphasized not only for Stroke Unit but for Intensive Care Unit. We have started such early comprehensive rehabilitation for patients after brain tumor surgery. Rehabilitation therapists were specially assigned to our brain surgery unit as members of the ward staffers. The purpose of this study is to show how this rehabilitation trial works for post-surgery patients with glioma. **METHODS:** Thirty-two patients with glioma (20 males and 12 females) who were admitted to our institution in the year of 2018 were included. Mean age was 61.8±13.3 years; glioblastoma was the major tumor type (24 patients). We retrospectively analyzed rehabilitation outcome focusing on improvement of the Functional Independence Measure (FIM) scores during hospitalization. **RESULTS:** Mean duration from surgery to the first rehabilitation intervention was 2.4±1.2 days, and mean hospital stay was 74.4±31.4 days. Twenty patients were discharged to home (62 %) and 12 were transferred to other hospitals for convalescence. Motor, cognitive and total FIM scores were 41.0±22.2, 18.0±7.5, and 59.1±27.3 before surgery, whereas they were 61.4±28.6, 21.8±9.4, and 83.2±36.9, respectively, at discharge. Motor FIM items revealed more remarkable improvement than those of cognitive ones. Since starting the early intensive rehabilitation trial, patients with brain tumor have been systematically rehabilitated with an organized manner before and after surgery. **CONCLUSION:** Early intensive rehabilitation for patients with brain tumor is recommended to be done by on-ward therapists who are assigned to work specially as members of the ward. Both motor and cognitive improvement is expected during hospitalization even in patients with malignant brain tumor.

## NQPC-09

**PROGNOSIS AND DELAYED COMPLICATIONS OF MEDULLOBLASTOMA IN KOBE CHILDREN'S HOSPITAL**

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Medulloblastoma is the most common pediatric malignant tumor and about 84.2% of cases are under 15 years old. With a current combined-modality approach that includes surgical approach, chemotherapy and radiation therapy, 5 year-survival rates have become 70–85% and also the so-called long-term survivors have increased in our country. This report reviews the prognosis and delayed complications of medulloblastoma in our institute. Cases were 14 boys and 11 girls from January, 2010 to May 2019. Mean age was 6.1 years old (4 months to 14 years old). 18 cases received gross total removal and 12 cases were high risk group. Excluding recent 4 cases, 15 cases have indicated complete reaction though 6 cases had relapsed or new tumor. The results are that 5 year-survival rates in our institute is 86.7%, but 4 cases had neuro-psychological complications. 5 cases suffered from endocrinal disorders which were not confirmed after the end of all treatments. 2 secondary cancer had appeared 5 and 8 years after the first treatments. The more the survivor in medulloblastoma cases increase, neurosurgeons have to consider long term follow up more than 5 years and pay more attention to support activity of daily life of these patients.

## NQPC-10

**END-OF-LIFE PHASE OF GLIOBLASTOMA**

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**BACKGROUND:** Despite aggressive treatment with surgery and chemotherapy, it is difficult to cure patients with glioblastoma (GBM). The end-of-life (EOL) phase of patients with GBM, and related problems, have not yet been adequately studied. Most cancer patients died in the hospital (84%) in 2017, but the Japanese government has recommended palliative home-care and the number of deaths at home has recently been increasing. This study explores the current situation of EOL care for GBM patients in our hospital. **METHODS:** We retrospectively examined the clinical course and EOL phase of 166 consecutive patients who were treated in our hospital between 2010 and 2017. **RESULT:** In total, 107 patients died; 28 (26%) at home, 25 (23%) in hospice care, 9(9%) in nursing homes, 21(20%) in long-term care hospitals (LTCH), 13(12%) in our hospital, and 11(10%) in other neurosurgical hospitals. The median survival time and length of EOL phase for patients who died at home were 596 and 77 days;

469 and 103 days in hospice care; 528 days and 149 days in LTCH; 388 days and 52 days in our hospital; 802 and 91 days in other neurosurgical hospital; and 565 days and 55 days in nursing homes, respectively. The KPS of patients who transferred to LTCH or was started palliative care in other neurological hospital was 60. That of other patients was 50. The patients who died at home entered deep coma in the last 3.5 days (n=24) of life and could not take oral feeds for 7 days (n=26). **CONCLUSION:** According to cancer patient study, the home-based palliative time of longer prognosis group were 59 days. EOL phase of GBM may be longer than other cancer. We must consider the problems of the EOL phase and improve the quality of EOL care.

## NQPC-12

**SHORT-TIME INTENSIVE REHABILITATION FOR PATIENTS WITH NEWLY DIAGNOSED MALIGNANT GLIOMAS WITH SPECIAL REFERENCE TO MEDICAL COOPERATION TEAM**

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**PURPOSE:** Many reports presented that patients with GBM had stable HRQoL during their remission time. However, there are few reports on the situation of ADL that is the basis of QOL. This prospective study was designed to evaluate the effectiveness of intensive rehabilitation for physically disabled patients with GBM after the initial treatment. **PATIENTS and METHOD:** Twelve patients with newly-diagnosed glioblastoma presenting with severe physical disabilities were registered after the completion of postsurgical radiation therapy combined with TMZ. All patients were evaluated by means of a core set of clinical scales of Functional Independence Measure (FIM), Sitting Balance score, Standing Balance score, and Mini-mental State Examination (MMSE). Patients were evaluated before the beginning and at the end of rehabilitation treatment. The daily rehabilitation program consisted of individual 180-min. sessions of treatment, seven days a week, for four to six consecutive weeks. Speech therapy was included when aphasia was diagnosed. **RESULTS:** Ten of 12 patients presented with mean increased FIM score of 26.6 points that reached the individual maximum point within 10 to 56 days. **CONCLUSION:** A short-time intensive rehabilitation (4 to 6 weeks) is effective for GBM patients during TMZ withdrawal period after the postoperative radiation therapy. This effective program requires close teamwork with the medical cooperation teams in the medical and rehabilitation hospitals: explanation to patients of the significance of the short-term rehabilitation, which is different from stroke rehabilitation, adjustment of hospitalization date considering radiotherapy and chemotherapy schedule, and adjustment of MRI imaging or bevacizumab administration schedule during rehabilitation.

## NQPC-13

**THE EFFICACY OF RAVEN'S COLORED PROGRESSIVE MATRICES FOR PATIENTS WITH BRAIN TUMOR**

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**BACKGROUND:** Mini-Mental State Examination (MMSE) and Raven's Colored Progressive Matrices (RCPM) are cognitive function tests used to assess speech and visual cognitive functions in patients with brain tumor and aphasia, respectively. We investigated the distribution and correlation between MMSE and RCPM scores in patients with brain tumor, who underwent tumor resection, to identify the test characteristics. **METHOD:** Among the 122 patients who underwent tumor resection in our hospital from April 2018 to March 2019, and potentially required rehabilitation, 43 patients (i.e., 19 men and 24 women) who underwent pre- and post-operative MMSE and RCPM were further investigated. Median age during surgery was 54 years (20–86 years). Relationship between the pre- and post-operative MMSE and RCPM scores were evaluated using the Spearman's rank correlation coefficient. Additionally, we investigated the characteristics of patients who scored low on either of the tests. **RESULTS:** Median pre- and post-operative MMSE scores were 29 points (14–30) and 29 points (21–30), respectively. Median pre- and post-operative RCPM scores were 33 points (25–36) and 35 points (18–36), respectively. The pre- and post-operative correlation coefficient between MMSE and RCPM scores were 0.376 and 0.699, respectively. Among the 12 patients with lower pre-operative scores on MMSE, as compared to RCPM, 8 patients had impaired attention and 4 patients had aphasia. One patient who scored lower on RCPM test, as compared to MMSE, had reduced analogical reasoning ability. Postoperatively, no patient scored low on MMSE as compared to RCPM, and one patient who scored lower on RCPM than MMSE had left hemi-spatial neglect. **CONCLUSION:** The pre-operative cognitive functions of patients with impaired attention and aphasia can be evaluated with RCPM using visual tasks without interference caused by these impairments. Minute pre- and post-interventional cognitive changes can be assessed with both MMSE and RCPM together.