had a KPS score of 100, and an elevated D-dimer level (7.59 μg/mL), revealing pulmonary embolism and deep vein thrombosis. She was started on a DOAC and underwent surgical removal of the tumor via craniotomy. She was diagnosed with glioblastoma and underwent radiation therapy in combination with chemotherapy. Approximately 20% of the patients with glioblastomas suffer concurrent symptomatic venous thromboembolism. The incidence of venous thromboembolism is further elevated in patients with a poor KPS score or elderly people. Many patients with glioblastomas suffer asymptomatic venous thromboembolism. In this report, asymptomatic venous thromboembolism was noted in patients with a good KPS score. In glioblastoma patients, it is necessary to test for venous thromboembolism by measuring D-dimer levels before surgery.

COT-21
TREATMENT EXPERIENCE OF AND TIPS FOR ADMINISTRATING NOVO-TTF
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BACKGROUND: Current standard of care for glioblastoma, consists of postoperative temozolomide (TMZ) concomitant with radiotherapy, followed by adjuvant TMZ monotherapy. Recently, an international phase 3 trial (EF-14) demonstrated that addition of tumor-treating fields (TTF) to adjuvant TMZ after completion of chemoradiotherapy extended median progression-free survival and overall survival by 2.7 months and 4.8 months, respectively, compared with TMZ alone in patients with newly diagnosed glioblastoma. TTF is now considered as a part of its initial treatment in the guideline in Japan (malignant glioma, initial). However, there is no evidence from anticancer drug studies, so TTF is known or experienced using TTF as a therapeutic device so far, especially in management and handling. METHODS: First six patients with newly diagnosed glioblastoma who underwent TTF were analyzed with special interest in medical and social supports to execute TTF at home. RESULTS: TTF was first introduced in our institution in May 2016, but no patients were treated because of no coverage by medical insurance until December 2017. We further needed to wait to initiate TTF treatment until January 2019 when the contract to use TTF systems was finally made between the company and institution. Since then six patients were registered in five months. For its introduction to clinical practice, it is essential to establish new in-house environment with medical professions division in the facility including documentations of calculating instruction fees and usage guidance for home care application of TTF. It is also important to initiate providing information of TTF such as timing of visit by specific practitioners and potential medical and psychologic burdens to patients and their families during and after chemoradiotherapy to better understand this new modality leading to the consent acquisition. CONCLUSIONS: Introducing TTF into clinical practice should accompany improvement of management in not only medical equipment and documentations but also patient care in hospital and home.

COT-22
TIMING OF SURGERY AND BEVACIZUMAB THERAPY FOR MALIGNANT GLIOMAS
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BACKGROUND: The drug manufacturer recommends postponing initiation of bevacizumab for malignant gliomas at least 4 weeks later postoperatively. Malignant glioma patients with significant neurologic deficits due to postoperative residual tumors are preferably treated before bevacizumab initiation. However, little is known about the timing of bevacizumab therapy that expecting improvement of neurological state and brain edema. There is a literature review indicating that the timing for administration of postoperative bevacizumab was at least 2 weeks. The authors assessed the safety, tolerability, efficacy of bevacizumab therapy less than 4 weeks later postoperatively. METHODS: Six patients of malignant gliomas with residual tumors and neurologic deficits were treated with bevacizumab (10mg/kg every 2 weeks) therapy 2–3 weeks later postoperatively. Results: Included 31-year-old female with thalamic midbrain glioblastoma (initial), 11-year-old female with anaplastic ependymoma (recurrent), 71-year-old female with initial cervical cord anaplastic astrocytoma (initial), 88-year-old female bilateral frontal glioblastoma (initial), 27-year-old female with thalamic midbrain glioblastoma (initial), 3-year-old female with brain stem glioblastoma (initial). RESULTS: All the patients did not experienced hemorrhage and impair wound healing. Every patient neurological state and perifocal brain edema following bevacizumab therapy demonstrated early improvement. Earlier bevacizumab therapy did not delay and cease postoperative chemoradiotherapy. CONCLUSIONS: Initiation of bevacizumab therapy 2–3 weeks later postoperatively seems to be safe and effective for malignant glioma patients with worse neurological state due to residual tumor and perifocal edema. The optimal interval which balances the risk of complications and the risk of tumor progression should be considered.

COT-23
INITIAL EXPERIENCE OF TREATMENT FOR GLOIOBLASTOMA BY NOVO-TTF
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PURPOSE: In 2018, Optune (TTF) became available covered by public insurance for patients with glioblastoma, based on the effectiveness of the US
EF-14 study (TTF + TMZ (temozolomide) vs. TMZ). There are problems such as use of at least 18 hours a day, behavior restrictions, expensive medical expenses, etc. From the initial use experience of Optune in our hospital, we examined the problems of effectiveness and treatment of TTF. METHOD: We examined patient approval rate of TTF use and treatment problems in patients with glioblastoma who started treatment in our department from 2017.11 when TTF became covered by insurance. RESULT: There were 41 patients with primary glioblastoma during the study period (male: female = 25: 16, median age 60 years (22–77)). There are 10 patients with KPS <70 that are not TTF indications (male: female = 7: 3, median age 45.5 (29–64), consent rate 38.5%). For 26 people (63% of the total) excluding 5 patients who participated in clinical trial, we explained that TTF indications, clinical trial results, adverse events, wearing rate should be 75% or more, and that full shaving is required. 10 people wanted to undergo TTF treatment. The consent rate of women is lower than that of men (46.7% vs. 27.3%), there was a tendency to take TTF treatment in young patients. Average wear rates of 5 patients who continued for more than 6 months were 55%, 76%, 84%, 85%, 91%, respectively. Use of TTF for 6 months or longer with residual tumor was CR 1 case, PR 1 case, SD 2 cases. Our department policy is to continue for 12 months. One person ends in 12 months, the other continues to use TTF. So far, no adverse events caused by TTF have been observed, though, there were complaints about the weight of the equipment, feeling of binding, restrictions on bathing, etc., and one person stopped using it in the fifth month. DISCUSSION: The consent rate for TTF use was about 40% as expected, and 80% of patients with an average wearing rate of 75% or more, TTF can generally continue once the patient is convinced and begins to use, but seems to be severely restricted in behavior in patients with paralysis. There is no profound data on TTF in Japan, and it is necessary to collect data at multiple facilities and clarify the effectiveness and safety in the future.

Key words: Glioblastoma, TTF, initial experiment