cine in June 2019. Our hospital plays an important role among 6 hospitals to serve cancer genomic medicine for cancer patients in Hyogo Prefecture. Here, we evaluated the system and the current status of cancer genomic medicine in our hospital, and examined future issues and problems. Consecutive 145 patients, who received outpatient treatment for cancer genomic medicine from July 2019 to June 2020 in Kobe University Hospital, were analyzed to examine patients' background, implementation status, gene profile, and the number of subjects for treatment and clinical trials. The final result of gene profile was obtained in 93 cases, of which 49 cases (52.7%) showed the actionable gene changes to be treated. Six cases of brain tumor were 2 cases of glioblastoma, 2 cases of oligodendroglioma (recurrence), and 2 cases of AT/RT and CNS embryonal tumor. In one case the test was cancelled because Performance Status (PS) of the patient decreased. In another case the actionable gene mutation (PTEN, CDKN2A) was obtained, but the patient lived too far to visit clinical trial site. Almost half of genetic panel tests revealed genomic changes related to treatment, but the number of patients actually targeted for treatment or clinical trials was extremely small. It is necessary to consider the rapid progression of illness and access to facilities conducting clinical trials.

COT-18

PROGNOSIS AND PROBLEMS ABOUT SECONDARY INTRACRANIAL NEOPLASM IN CHILDHOOD CANCER SURVIVORS: A SINGLE-INSTITUTION RETROSPECTIVE COHORT STUDY

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OBJECTIVE: As childhood cancer survivors gradually increased, late complications of treatment have been at issue and risk of secondary neoplasm is increasing cumulatively. We retrospectively analyzed clinical outcome and problems of treatment for secondary intracranial neoplasm. Patients and METHODS: 497 patients (children, adolescents and young adults) with malignant central nervous system neoplasm were treated in our institution from 1971 to 2015. 188 cases (37.8%) were enrolled in this follow-up study. Diagnosis of primary neoplasm included low grade glioma (29%), embryonal tumor (23.5%), germ cell tumor (24.5%), ependymoma (8%), other (15%). RESULTS: Fourteen cases of them were diagnosed as secondary intracranial neoplasm. Twelve cases were operated and histopathological diagnosis included 6 glioblastomas, 1 anaplastic astrocytoma, 1 anaplastic ependymoma, 4 meningiomas. In all cases, histopathological finding and molecular profile of secondary intracranial neoplasm differed from that of primary malignant brain tumors. Duration from the first operation of primary tumors to diagnosis of secondary intracranial neoplasm ranged from 5 to 36 years (average: 29.3). In malignant glioma cases except meningioma cases, origin of them was contained in high irradiation field (>40Gy). In malignant glioma cases, Chemotherapies using temozolomide and bevacizumab were selected after tumor removal. In 3 cases of them, reirradiation was performed. Response for treatment was poor or transient in most cases, median survival time was 12 months. Of late complications, such as endocrinological problem needed replacement (55%), cerebrovascular event (15.9%), secondary neoplasm (7.4%), secondary neoplasm was importantly related with prognosis. CONCLUSION: It is difficult to plan therapeutic strategies against second malignant neoplasm because of lack of information in case of long-term survivors and restriction for first radiation. Clinical outcome of them is poor and new treatment targets should be developed. It is important to plan clinical trials to reduce treatment intensity and usable long-term follow-up system.

COT-20

CLINICAL EXPERIENCE WITH TUMOR-TREATING FIELDS THERAPY FOR NEWLY DIAGNOSED GLIOBLASTOMA

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INTRODUCTION: Tumor-treating fields (TTF) is an established modality for glioblastoma (GBM) treatment administered through the portable Optune system. The efficacy of Optune for newly diagnosed GBM was demonstrated in the EF-14 phase 3 trial. Although TTF is now included as part of initial treatment in the Japan GBM guideline, it is not yet a standard therapy because the procedures are cumbersome and may impose unnecessary psychological burdens on patients with dire prognoses. In our institution, TTF therapy has been offered as a treatment option for GBM patients since January 2018. This report summarizes our initial experience with this novel treatment.

METHODS: The medical records of the first eight patients with newly diagnosed glioblastoma who underwent TTF were retrospectively reviewed.

RESULTS: The eight patients with newly diagnosed glioblastoma treated with TTF comprised five men and three women (median age, 68 years; range 34–83 years). Nine patients were offered TTF therapy, but one declined because of the need for a shaved head. The patients continued TTF for 1–7 months, without major complications. Skin reaction was the most prevalent adverse event (n = 5). One patient could not continue TTF treatment after femoral neck fracture due to the weight of the mobile battery. One patient who did not have a helper at home received TTF treatment from a nurse visiting his home.

CONCLUSIONS: Patients should be provided with information on TTF, such as the timing of informed consent during and after chemoradiotherapy, to help them better understand this new modality and secure their consent.