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A case of tumor lysis syndrome following Dabrafenib and Trametinib in Malignant Melanoma

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Background: Tumor Lysis Syndrome(TLS) is a metabolic disorder that can occur as a complication during anti-cancer therapy. It occurs frequently in chemotherapy of acute lymphoblastic leukemia and lymphoma. But in solid cancer, incidence of TLS is very low. Dabrafenib and trametinib combination therapy was approved in Korea January 2018 for BRAF mutant Malignant Melanoma (MM). We report a case of TLS in MM patient who was treated with Dabrafenib and Trametinib. **Case:** Patient was 43 years old and had no specific medical history and family history. He visited hospital with complaint of gradually growing multiple nodules in left inguinal area with maximal diameter about 13cm. Pathological examination confirmed MM with BRAF V600E mutation. Because of mass effect symptom(pain, walking disturbance) tumor removal and skin flap surgery was preceded. 31 days after surgery, numbers of solid nodules were palpated above operation site. Abdomen CT showed multiple nodular, infiltrative mass in left pelvic area, left hydronephrosis, and peritoneal carcinomatosis. The patient was hospitalized for hydronephrosis manage and chemotherapy. Creatinine(Cr) level improved from 1.47 to 1.04 mg/dL after retrograde ureteral stenting for hydronephrosis. On HOD#10, Dabrafenib 150mg twice a day, Trametinib 2mg once a day were initiated. Immediate after administration urine output decreased to 50ml during 12 hours. BUN77.8mg/dL, Cr3.67mg/dL, K5.4mEq/L, P7.4mg/dL, Uric acid10.3mg/dL, Calcium7.6mg/dL, LDH2398IU/L were checked. TLS was suspected and fluid therapy was initiated immediately. Diuretics and allopurinol were administered. Chemotherapy discontinuation and renal replacement therapy were considered. But urine output recovered 2 days later. Blood test findings returned to normal range 4 days later. Patient was discharged on HOD#21. Two months later, image study revealed decreased tumor extent which consistent with RECIST v1.1 stable disease(decreasing). **Discussion:** There was NO previous report of TLS after combination therapy of BRAF inhibitor and MEK inhibitor in MM. Considering constant introduction of targeted therapies for solid tumors, it is important to be aware of the possibility.

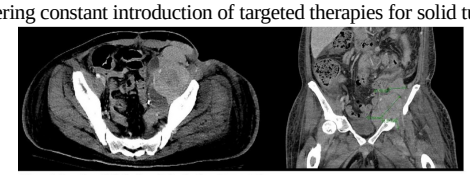


Figure1. Baseline APCT before Dabrafenib + Trametinib

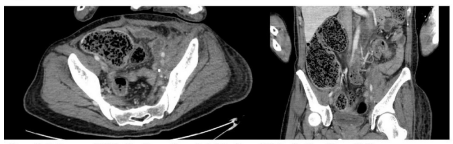
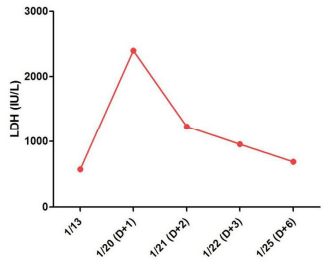


Figure2. Follow up APCT after 2 months administration of Dabrafenib + Trametinib



Graph1. Changes in LDH following administration of Dabrafenib + Trametinib

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Assessment of therapeutic response by PET/CT scan after definitive CRT in locally advanced HNSCC

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Background/Aims: The role of ^{18}F-fluorodeoxyglucose Positron Emission Tomography/Computed Tomography (PET/CT) scan after definitive chemoradiotherapy (CRT) in patients with locally advanced head and neck squamous cell carcinoma (HNSCC) has not been determined yet. This study was performed to investigate the value of evaluating therapeutic response by PET/CT after definitive CRT. **Methods:** We retrospectively reviewed medical record of patients with locally advanced HNSCC who underwent definitive CRT in Pusan National University Yangsan Hospital from June, 2008 to June, 2017. PET/CT scan was taken between 8–16 weeks after completion of definitive CRT. The nasopharyngeal cancer was excluded due to their different biology. **Results:** A total of 28 consecutive patients (pts) were reviewed in this study. The median age was 61 (range, 48–82) years, and male were dominant (78.6%). The primary sites of cancer were oropharynx (*n*=11), oral cavity (*n*=7), hypopharynx (*n*=5), nasal cavity (*n*=3), larynx (*n*=1), and unknown (*n*=1). The response assessed by PET/CT was CR in 11 pts, PR in 15 pts, and PD in 2 pts. We divided them into two groups; metabolic complete remission (mCR) group (*n*=11) and non-mCR (*n*=17) group. The median PFS was better in mCR group (51.9 months in mCR group vs. 23.4 months in non-mCR group, *p*=0.068, Figure 1A). The median overall survival was 52.5 month (95% confidence interval [CI], 37.3–67.7) in mCR group and 32.2 months (95% CI, 22.2–42.2) in non-mCR group (*p*=0.101, Figure 1B). In univariate analysis for PFS, diabetes (HR 3.631, 95% CI 1.203–10.959, *p*=0.022) and hsCRP (HR 3.124, 95% CI 1.027–9.504, *p*=0.045) were statistically significant. Multivariate analysis showed hsCRP as the significant prognostic factor for PFS (HR 3.263, 95% CI 1.047–10.171, *p*=0.041). **Conclusions:** PET/CT scan after definitive CRT may help to predict the outcomes in patients with locally advanced HNSCC. The hsCRP level could be considered as a prognostic factor affecting the outcomes of the treatment.