P2 – 2 – 7  Breast cancer case with multiple brain metastases responding to T-DM1

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A 43-year-old woman was diagnosed in 2006 with stage IV cancer of the right breast with Paget’s disease (ER negative, PgR negative, and HER2 positive). She refused surgery and received a folk remedy. In 2012, she showed auto-destruction of the primary tumor, multiple hepatic, lung and bone metastases, and visited our hospital. She partially responded to trastuzumab and paclitaxel as primary treatments but suffered increased intracranial pressure due to multiple brain metastases. After cranial irradiation, she received lapatinib and capecitabine. Her symptoms improved and the brain metastases diminished. However, liver metastasis growth; 6 months later, necessitated pertuzumab, trastuzumab, and vinorelbine. However, she did not respond to these treatments. Although trastuzumab and TS-1 administration was started in March 2014, she had recurrent brain metastasis growth and new-lesion development. Starting July 2014, she was given T-DM1. After completing two treatment courses, she showed marked brain metastasis reduction. At the end of eight courses, further brain metastasis reduction and disappearance of brain edema were noted. Despite slight lung metastasis enlargement, the brain metastasis and pathological stage remain well controlled. [Discussion] Due to their high molecular weights, molecular-targeted agents have difficulty passing through the blood-brain barrier, thus presumably having limited treatment efficacy for brain metastasis. However, preclinical studies have raised the possibility of trastuzumab passing through the blood-brain barrier. A few reports have suggested the efficacy of T-DM1, with a molecular weight similar to that of trastuzumab, for brain metastasis in actual clinical settings. We describe our experience with a patient suffering from brain metastasis who responded to late-phase T-DM1 administration. The relevant literature is also discussed.