

DIFFERENTIATED THYROID PAPILLARY CARCINOMA WITH CEREBELLAR METASTASIS, CASE REPORT

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OBJECTIVES

Differentiated thyroid cancer has usually good prognosis and long-term survival. Distant metastasis ratio is 5-15%. Metastases to cerebrum, breast, liver, kidney, muscle, and skin are relatively rare. The study of molecular mechanisms of PTC has demonstrated that BRAFV600E gene mutation is a significant event in the process of this disease (1).

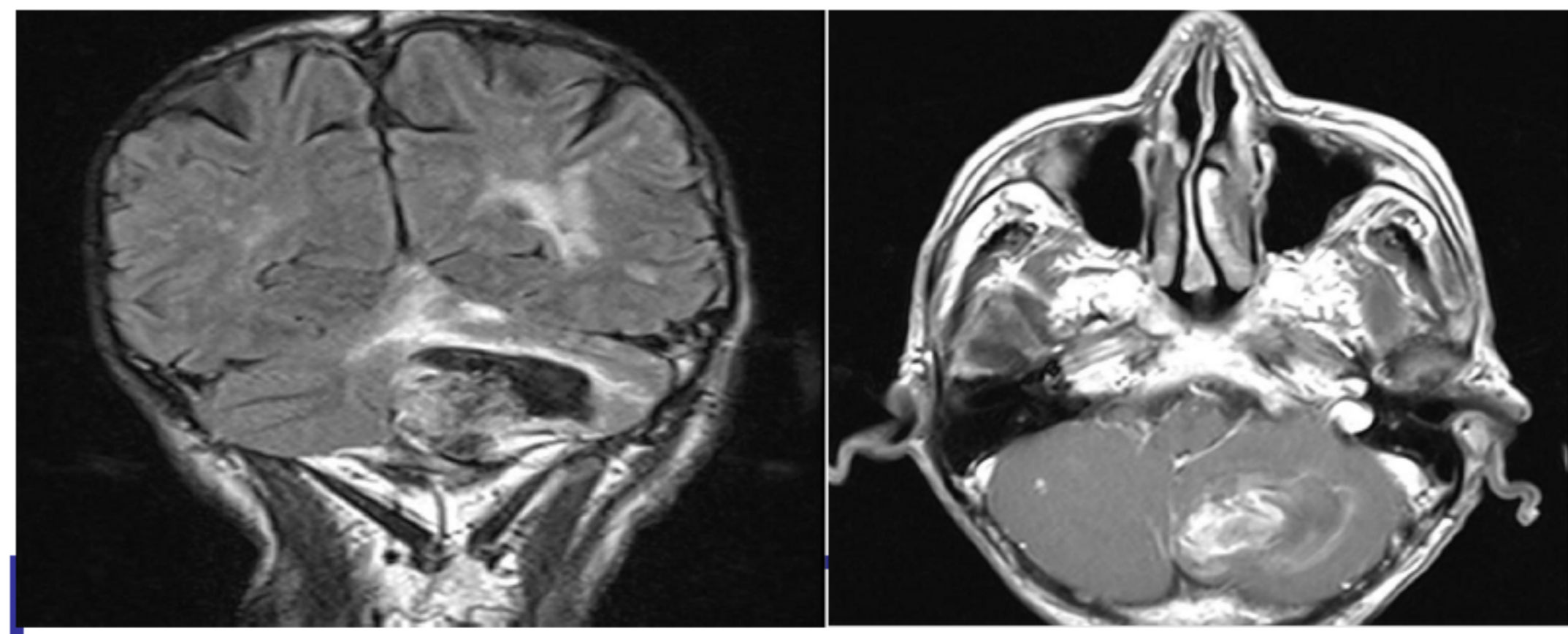


Figure 1a-1b: Views of magnetic resonance imaging of the brain which demonstrated a ring-enhancing lesion to the cerebellum accompanied by surrounding edema and compression of the fourth ventricle.



Figure 2: Adrenal and liver metastases in abdomen computer tomography.

CASE REPORT

55 year-old-male patient who had multinodular goiter showed malignant cytology in his fine-needle-biopsy. Total thyroidectomy, neck dissection were performed. Pathology was consistent with PTC, diameter was 4.5cm with vascular and perineural invasion, 11/13 lymph nodes had PTC infiltration. Bilateral cervical, mediastinal lymph node, bilateral multiple areas in lung, C4-C5 vertebrae had increased FDG uptake in PET /CT after surgery. Second-look neck dissection was performed. 33/46 lymph nodes had PTC infiltration. 200mCurie of RAI ablation therapy was given [TSH: 82µIU/ml(0,34-5,6), thyroglobulin: 38817ng/ml(1,15-35), anti-thyroglobulin:107IU/ml(0-115)]. On whole body scanning (WBS), radioactivity was detected neck, mediastinum and both chest sides. Because of high thyroglobulin levels, RAI ablation treatment with the dose of 250mCi was planned after one year of first ablation. On WBS, radioactivity was detected in region of mediastinal, axillary, hemithoraxes and liver. Patient didn't come to follow up about one year, then he was admitted to emergency department with headache and vomiting. 37x47mm mass with solid-cystic components in right side of cerebellum was detected in cranial-MRI (Figure1a-1b). Patient was referred to neurosurgery clinic. There were multiple lymph nodes with pathological dimension in both axillary and mediastinal areas and multiple metastatic foci existed in bilateral lower lung and in liver and 8x5cm in left, 3.5 x2.5cm in right adrenal glands were consistent with metastases in CT (Figure2). Cerebellar mass was excised. PTC infiltration was reported and BRAF V600E mutation was analyzed in cerebellar metastatic mass.

CONCLUSIONS

Conclusion: BRAFV600E mutations in PTC are associated with extrathyroidal spread, lymph node metastasis, tumor recurrence and mortality.

References

1. Gong RX, Zhou Y, Luo SH, Zhang L, Zhou B. An investigation of BRAF mutation in papillary thyroid carcinoma and its clinical value. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi* 2009 26: 310-313.