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BACKGROUND

➤ Metastatic pituitary tumors are seen rarely and it is hard to differentiate them from the benign lesions of the gland. We have reported a case, with a known maxillary tumor, detected to have a pituitary lesion coincidentally on PET-CT.

CASE

➤ 45 years old male patient with a known history of relapsed maxillary sinus tumor has been referred to our clinics because of the hypophyseal lesion detected to have increased FDG involvement on PET-CT examination. It is learned from the medical history that he was operated for the maxillary sinus tumor 35 years ago and had the second operation last year because of the recurrent disease. Histopathological examination of the lesion was reported as well-differentiated squamous cell carcinoma with perineural and lymphovascular invasion. He received 6 cycles of chemotherapy, conventional external radiotherapy and 66 Gys of tomotherapy (maximum of 30 Gys to the pituitary gland). There was a tissue defect on the right maxillary region, nose and the right eye lid in physical examination. Pituitary lesion was metabolically active on PET-CT and SUV max value was 11.7 (Fig.1). There was also left lung involvement (SUV max: 4.3) compatible with metastasis.

➤ We have demanded a pituitary MRI and detected a 5.4x4.3 mm sized nodular pituitary lesion on the right side of the gland which was isointense on T1A and T2A images and with late contrast concentration on dynamic sequences. In the laboratory examination GH was 0,09 ng/ml, IGF1 was 239 ng/ml, prolactin was 57.6 ng/ml, TSH was 1.9 uIU/ml, FSH was 18.4 mIU/ml, LH was 4.6 mIU/ml, ACTH was 52 pg/ml, cortisol was 15.7 µg/dl. There wasn't any symptom or sign of diabetes insipidus. The PET-CT control, made one month after radiotherapy, has revealed that the pituitary lesion was less metabolically active after RT (SUV max: 7.1).

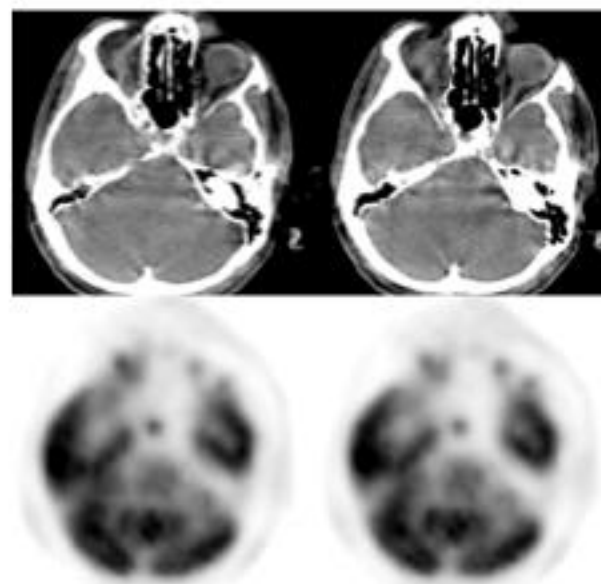


Fig 1. Increased metabolic activity in pituitary on PET-CT

CONCLUSION

➤ It is difficult to differentiate metastatic lesions from the benign lesions of the pituitary gland. Most of the metastatic lesions are asymptomatic although presence of diabetes insipidus or ophthalmoplegia are suspicious for metastasis in patients with a known history of a malign tumor. Although there isn't any specific radiologic sign for metastatic lesions, increased thickness of pituitary stalk, diminished signal intensity of posterior pituitary, isointense appearance on T1 and T2 images, cavernous sinus invasion and sclerotic changes in sella turcica should make the clinician consider presence of a metastatic lesion within the gland.

➤ In our case because of the lesion being metabolically active on PET-CT with a high SUV max value, isointense appearance on MRI and a history of previous maxillary sinus malignancy made us suspect pituitary metastasis. However absence of pituitary insufficiency, diabetes insipidus or ophthalmoplegia and decreased metabolic activity (SUV max) on control PET-CT might indicate that the lesion might be benign. Tissue biopsy for the definitive diagnosis could not be performed because of the facial defect of the patient.