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Case Report

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ADRENAL METASTASIS STEMMING FROM OVARIAN CANCER PRESENTED WITH ADRENAL INSUFFICIENCY: A CASE REPORT AND REVIEW OF THE LITERATURE

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ABSTRACT

One of the frequent metastatic areas of malign tumors is the adrenal gland. Adrenal metastasis between the rates of 13% and 30% was detected in postmortem autopsy series of the metastatictumors.In this study, weare presenting an adrenal metastasis case presented with adrenal insufficiency followed due to undifferentiated ovary carcinoma. As a conclusion, the characteristics of adrenal metastasis are staying silent until bigger sizes without giving any symptoms. Adrenal insufficiency in cases having adrenal metastatic must be investigated before surgical operation.

KEYWORDS: Adrenal insufficiency, metastasis, ovarian cancer.

INTRODUCTION

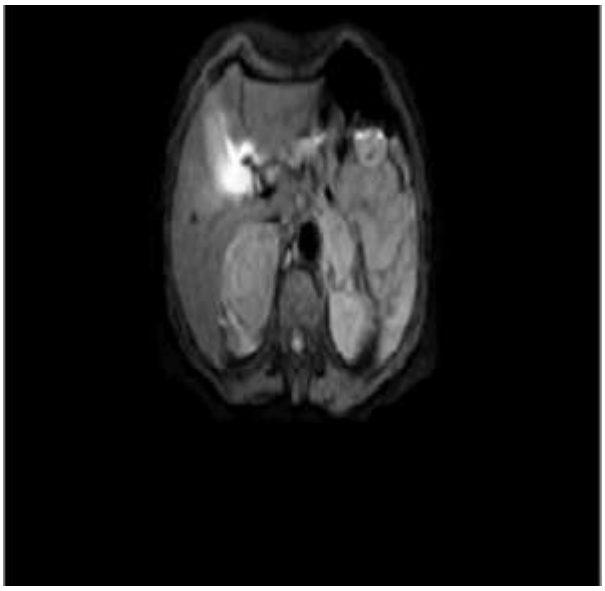
Adrenal glands are the metastasis areas of malign tumors both bilaterally or unilaterally. The surrenal metastasis prevalence in unselected cases, which are not known to have cancer, is 0-21%; and the prevalence in cancer patients is higher 32-73%.[1] The majority of adrenal metastasis consists of breast (39%), lung (35%), stomach (14%), esophagus (12%) and hepatobiliary cancers (10%). In ovarian cancers, on the other hand, adrenal metastasis is extremely rarely observed.[2-3]

The characteristics of adrenal metastasis are staying silent until they are diagnosed in bigger sizes without giving any symptoms. In this case report, our purpose is presenting an ovarian carcinoma case with bilateral adrenal metastasis causing adrenal insufficiency.

The Case

60-year-old female patient applied to the gynecology clinic due to stomach ache and loss of weight. The patient was transferred to us because of bilateral adrenal mass in Abdominal Magnetic Resonance Imaging(MRI). In physical examination, pain was detected in the deep palpation in right pelvic area and in bilateral voids, and hard mass that could be felt by hand was also detected. The laboratory test results were as follows hemoglobin: 13 gr/dL, creatinin: 1.7 mgr/dL, CEA:68 U/mL, ACTH: 36.3 (7-50) pg/mL, Cortisol: 16.6 (**7**-29) µg/dL. A semisolid mass was detected in abdominal MRI in the superior section of the uterus and bladder, filling the pelvic area stretching to the abdomen, whose measurable widest size was 115x188 mm with thick wall cystic weight, and non-adenoma? (metastasis?) mass lesions were detected partly in cystic areas around the hypointense in T1 and around the heterogenic hypointense in T2 in right adrenal with 64x49 mm and in left adrenal with 50x32 mm widest sizes (Picture 1). The evaluation of the adrenal mass was made in our clinic. The Feokromasitoma, Cushing syndrome, aldosteronoma were eliminated and evaluated as the non-functional mass (metastasis?). Surgical exploration was made in gynecology clinic due to pelvic mass. The tissue pathology was reported as undifferentiated carcinoma and metastatic lymph nodes. In post-operative follow-ups of the patient, qualm, vomiting, hypernatremia, and mental fog developed. The ACTH was detected as 258 pg/mL and the Cortisol was detected as <1µg/dL. Adrenal insufficiency was considered in clinical and biochemical terms. Prednisolone was started for the patient as 60 mg/day in parenteral way at stress dosage and the clinical presentation was corrected in the follow-ups. In post-op period, adrenal insufficiency developed and therefore the adrenal masses were evaluated with abdominal MRI again. No bleeding, no growth and no other pathological findings were detected in the mass. It was considered that the patient did not have adrenal insufficiency before the operation and yet, the development of adrenal insufficiency in post-op period was associated with the operation, additional stress in the

post-op period and the ischemia of the sound adrenal gland.



Picture 1. Abdominal MRI: The semisolid mass in the superior section of the uterus and the bladder and the metastatic mass lesions that are hypointense in T1 right adrenal with 64x49 mm, and in left adrenal with 50x32 mm size.

DISCUSSION

Adrenal gland is the most frequent metastasis area of malign tumors. Adrenal metastasis is observed most frequently in the lung, breast and primary kidney tumors. However, isolated adrenal metastasis was observed in less than 1% cases. Adrenal metastasis frequency has been explained with the high-volume blood flow and the sinusoidal vascular pattern of the adrenal gland.[4] In the literature, ovarian tumors and metastasis in adrenal gland where many cancer types apply metastasis have been reported very rarely. We determined that the bilateral adrenal metastasis stemmed from ovarian carcinoma.

In differential diagnosis of the adrenal masses as benign-malign, the Hounsfield Units and the cleaning rate of the contrast matter in tomography and the fatty content amount of the mass may be guiding in MRI. However, in patients with malignity, although the adrenal masses seem benign, metastasis cannot be eliminated without histopathological examination of these masses.[5] The prognosis is extremely bad in tumor cases with adrenal metastasis. For this reason, biopsy is not preferred in such patients.[2] In our case, no pressure was observed in the fat-pressured imaging in abdominal MRI and this was evaluated as being non-adenoma. After the metastasis being detected in the patient, the life time was 1 month.

Adrenal metastasis is generally observed as masses that are bigger than 4-6 cm, with bilateral localization, irregular borders, invasive to the surroundings and necrosis areas inside. In extra-adrenal cancercases, the existence of these radiological images increases the probability of metastasis at a dramatic level.[6] Similar radiological characteristics being present in our patient made us consider the situation in favor of the metastasis.

Adrenal metastasis often progresses quietly in clinical and functional terms. In case 10% of the adrenal glands are healthy, they can produce sufficient hormones. In case of the adrenal metastatic diffusion, adrenal insufficiency may develop very rarely. Clinically, less than 1% may be presented with adrenal insufficiency due to metastasis.[7] In my case, although there was bilateral adrenal metastasis at a great size, sufficient hormone production was detected in functional evaluation before the operation. In the post-op period, the development of adrenal insufficiency may be explained with the additional stress during the operation period, the ischemia of the sound adrenal gland and the growth of the metastasis.

As a conclusion, although there is no primary malignity in cases who apply with bilateral adrenal mass, we must consider the probability of adrenal metastasis in the first place. It must be born in mind that extremely big metastasis, which is the case in our patient, may lead to adrenal insufficiency.

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