A case report of melanoma metastasis to adrenal gland

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We describe a case of a 42-year-old patient with skin melanoma that was admitted to the Department of Endocrinology and Internal Medicine, at Medical University of Gdańsk due to a focal lesion in the left adrenal gland (most likely metastasis) found on computed tomography (CT) (Fig. 1A,B).

The primary skin lesion was completely removed from the left lumbar region in December 2016 (Fig. 1C). Histopathological examination revealed superficial spreading melanoma with tumor cells embolism of the lymph vessels with no features of infiltration of blood vessels and nerves, without microscopic satellite focuses (pT3bN0M0). In March 2017 metastasis to the sentinel lymph node was found. Axillary lymph nodes were surgically excised. All removed lymph nodes (n=26) showed no metastatic features. In September 2017, whole body CT scan revealed metastases to the skin, and subcutaneous tissue of the chest (Fig. 1D) and lymph nodes of the left axilla. Genetic testing showed a presence of the BRAFV600E mutation in the metastatic tissue. The patient was enrolled into clinical trial with placebo versus T-VEC (Talimogene Laherparepvec - virus immunotherapy administered into the tumor) altogether with pembrolizumab (humanized monoclonal antibody directed against programmed cell death 1 administered intravenously). The clinical trial protocol required the whole body CT imaging every three months. In radiological assessment in January 2018 and April 2018, small regression was observed of the size of both metastatic lymph nodes and metastases to the subcutaneous tissue. In CT scan performed in July 2018 two lesions were found of 19x14 and 12x8 millimeters in the left adrenal gland. They displayed heterogeneous structure and enhancement after contrast administration. There was also a presence of numerous but not significantly enlarged retroperitoneal lymph nodes. Subsequent imaging described the progression of the size of the adrenal lesion to 36x25 millimeters (November 2018). Due to the progression of the disease the patient was excluded from the clinical trial and combined thyrosine kinase inhibitors therapy (dabrafenid and trametinib) was introduced. Additionally,
left-sided adrenalectomy was scheduled. Hormonal assessment carried out in accordance with the guidelines of the Polish Society of Endocrinology revealed normal adrenal hormonal activity [1]. In January 2019 a left-sided laparoscopic adrenalectomy with lymphadenectomy was performed (Fig. 1E). Melanoma metastases were reported to the adrenal parenchyma, to a single lymph node and to adipose tissue in the histopathological examination (Fig. 1F). No features of vascular invasion was found.

There has been a steady increase in the incidence of cutaneous melanoma for several decades [2]. According to the World Health Organization the incidence in Europe is around 11.5 per 100,000 inhabitants [3]. Melanoma metastases are most often found in distant lymph nodes, lungs, liver and the brain [4]. Adrenal gland metastases are very rare [5]. The reported case indicates they should be considered, especially in the presence of any alarming symptoms that might suggest deficiency of adrenal glands hormones.

References


Figure 1. Computed tomography of the abdominal cavity

A Frontal section, metastasis to the left adrenal gland (arrow)

B Cross section, metastasis to the left adrenal gland (arrow)
C Primary tumor of melanoma

D Metastases of the melanoma to the skin and subcutaneous tissue
E Left adrenal gland with melanoma metastasis
Histopathological examination: 1-adrenal tissue 2-melanoma metastasis 3-satellite metastases