Hepatocellular carcinoma (HCC), with an estimated 1 million cases annually, is the fifth most common cancer in the world, particularly in Southeast Asia. Extrhepatic metastases of HCC have been reported in approximately 50% of cases, and the typical target organs are the lungs, abdominal lymphatics, adrenal glands, great veins adjacent to the liver, diaphragm, and the oral and perioral regions. We report a case with clinical, radiologic, biochemical, and histopathologic evidence of metastases of HCC, with the initial presentation a solitary gingival mass. Subsequent examination revealed adrenal insufficiency. A complete workup confirmed the presence of multiple organ involvement, including metastasis to the adrenal glands.

Case Report

A 70-year-old patient with occasional episodes of vomiting and intermittent fever was referred to our unit for evaluation of a gingival mass over the anterior mandible of 2-months’ duration. Examination revealed an exophytic mass in the right canine region (Fig 1) that was firm, non-tender, and purplish, measuring 2.5 × 2.5 cm, without regional lymphadenopathy. The covering mucosa appeared lobular without surface ulceration. A panoramic film did not reveal any jaw bone changes. Systemic examination revealed an increased body temperature with no evidence of icterus or ascites. The laboratory investigation findings showed increased levels of serum potassium and adrenocorticotropic hormone and decreases in the cortisol level. These findings led us to the provisional diagnosis of Addison’s disease. The increased levels of serum α-fetoprotein indicated the possibility of a hepatobiliary malignancy. Abdominal ultrasonography revealed an enlarged prostate and hypoechoic areas in the sixth segment of the liver. Contrast-enhanced computed tomography of the chest and abdomen (Figs 2–5) revealed hypodense areas suggestive of metastases in the liver, lungs, adrenal glands, and T12 vertebra. The coagulation profile was within normal limits; therefore, an excisional biopsy of the gingival mass was performed with the patient under monitored anesthesia care. With due consideration of the patient’s adrenal insufficiency, intravenous administration of 1 mg of dexamethasone hourly was administered and tapered gradually after the procedure. The histopathologic features were consistent with metastatic HCC (Fig 6), with immunohistochemical staining positive for α-fetoprotein. The patient was discussed in the joint clinic; because of the multiple organ involvement, palliative treatment was considered.

Discussion

HCC is the most common liver malignancy, frequently occurring in elderly individuals with alcoholic...
liver cirrhosis⁴; it can also occur in those without a history of abusive habits.

Metastasis to gingival region is rare, with its first description by Dick et al⁵ in 1957, and resemblance to epulis with an exophytic mass, without any radiographic changes. Thus, it is difficult to differentiate it from nonmalignant reactive gingival tumors. However, it can be differentiated from nonmalignant reactive gingival tumors because the latter follows a slower growth pattern.

The solitary intraoral metastasis can be an initial manifestation in 73% of cases and can lead to an inappropriate diagnosis and delayed management.⁶ The pathogenesis of the metastatic process in the oral soft tissue is not clear. The role of inflammatory attraction of the metastatic cells toward the gingival region has been proposed.⁷ Nagy et al⁸ suggested an entrapment of malignant cells in the capillary network of chronically inflamed gingiva to be a possible cause. It is said that oral metastases are usually evidence of a widespread disease and indicate a serious prognosis, prompting us to perform a systemic exam-

FIGURE 2. Contrast-enhanced computed tomography scan showing nodular lesion (1.7 × 1.4 cm) in right breast parenchyma.

FIGURE 3. Contrast-enhanced computed tomography scan showing multiple rounded nodular lesions scattered throughout lung parenchyma, with largest measuring 1.6 cm, in anterior segment of left upper lobe.

FIGURE 4. Poorly defined hypodense lesion in heterogeneous segment 6 of liver.

FIGURE 5. Enlarged left iliac regional lymph node 2.8 cm seen along left iliac vessel.
A series of investigations was performed in our case revealing a systemic imbalance with multiorgan involvement of the disease.

Interestingly, our patient also manifested features of adrenal insufficiency before the diagnosis of HCC. In a review by Guttman, a statistical analysis of 566 cases revealed that metastatic carcinoma accounted for less than 1% of the reported cases of Addison disease. Our case showed clinical and biochemical evidence of adrenal insufficiency owing to metastatic HCC. Metastatic involvement of the adrenal glands is common, because of the ample sinusoidal blood supply. The low incidence of adrenal insufficiency is because a sufficient part of the adrenal gland has to be destroyed before hypofunction occurs. An extensive literature survey noted very few instances of adrenal gland involvement with hypofunction. In our case, during the routine workup, decreased cortisol and increased potassium levels alerted us to the presence of adrenal insufficiency with the possibility of metastasis, even though the primary tumor was not clinically apparent.

Metastasis to the gingiva is very rare. When it occurs, it can mimic other benign and malignant conditions that affect the jaw; therefore, histopathologic examination is necessary to make an ultimate diagnosis. However, widespread metastasis accompanies a poor clinical outcome with a survival rate of 2 weeks to 2 years. Palliative management remains the only modality in these cases.

References