



An Unusual Location of Metastatic Breast Cancer

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Abstract

Metastasis of breast cancer in paranasal sinus are rare. Only few cases have been reported until now. The presence of rhinological or neurological signs in a patient with a past history of breast cancer should raise the awareness of the practitioner. The treatment is generally palliative. We report, in this manuscript, the case of a 50-year-old female patient treated for breast cancer ten years ago for breast cancer, who presented with a metastasis to the sphenoid sinus.

Keywords: Breast cancer; paranasal sinus; metastasis; palliative treatment; neurological signs; rhinological signs

Introduction

Breast cancer is the most common cancer in women [1]. The frequent metastatic sites are lymph nodes, lungs, bones, liver and brain [2]. Metastasis to head and neck region, particularly paranasal sinuses are rare. To our knowledge, only few cases have been reported in the literature [3]. Threw this case report, we tried to illustrate the clinical presentation of a metastasis to the sphenoid sinus in a patient with a past history of a breast cancer.

Case Report

A 50 -year-old diabetic female presented with numbness of the left facial side, decreased visual acuity, diplopia and headaches evolving for 6 months. The patient did not report any rhinological signs. She had a history of left breast cancer ten years ago. She

underwent surgery followed by chemotherapy and radiotherapy. No evidence of recurrence has been noticed during the ten years follow up. At the physical examination, the patient was found to have convergent strabismus, left exophthalmia and ptosis. The nasal cavities were tumor free. Computed tomography (CT scan) and magnetic resonance imaging (MRI) showed a 48 mm mass of the left sphenoid sinus with an extension to the cavernous sinus and the ethmoid bone that compresses the left optic nerve (Figure 1). An endoscopic exploration of the sphenoid sinus and multiples biopsies of the tumor were performed. The histopathological examination completed by histoimmunochemical study concluded to a metastasis of intraductal carcinoma. The patient was referred to oncological unit for palliative treatment. She is currently receiving chemotherapy.

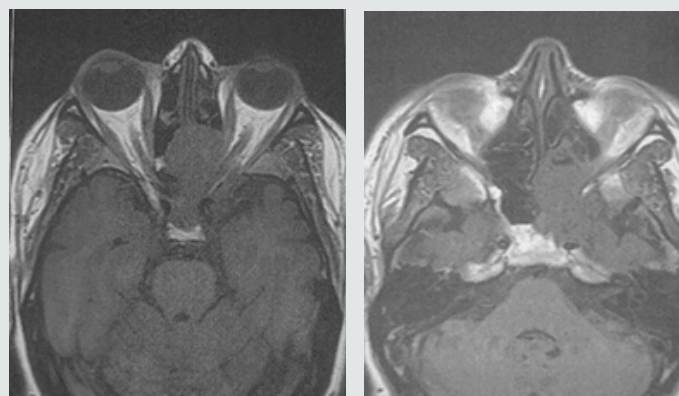


Figure 1A & Figure 1B: Axial T1 weighted MRI sequence images: mass of the left sphenoid sinus with an extension to the cavernous sinus and the ethmoid bone that compresses the left optic nerve.

Discussion

Despite being the most frequent cancer in women, metastasis of breast cancer to nasal cavity and paranasal sinuses are very rare [3]. The most common metastatic sites are the sphenoidal, the frontal and the ethmoid sinuses [4]. Few cases were reported in the literature and most of these patients underwent palliative treatment. Their prognosis was poor.

The pathogenesis of tumor spread remains unclear. It is thought to be an hematogenous spread via the prevertebral venous plexus [4]. The lymphatic route is also suggested. It's exceptional that a distant metastasis is revealed before local recurrence or lymph nodes metastases [5].

The clinical presentation is usually unspecific; thus, the diagnosis is generally delayed [6]. Symptoms may be those of rhinosinusitis. Main signs are: epistaxis, nasal obstruction and facial pain [7]. Orbital signs such as exophthalmia, ptosis, diplopia secondary to abducens palsy or a blurred vision may also occur when the tumor develops into the orbit [8]. Reviewing patient medical history is essential to guide the diagnosis. Patients who express the human epidermal growth factor receptor 2 (HER-2) have a higher incidence of metastasis to paranasal sinuses compared to HER-2 negative patients [9]. Metastasis generally occurs in the fifth or sixth decades of life [10].

Using imaging techniques is useful; CT scan guides the diagnosis of malignant tumor by showing bone erosion, angiogenesis and invasion of skull base. MRI makes a better study of the extension to the orbit, cranial nerves and intracranial spread. Positron emission tomography (PET scan) is useful to detect earlier lesions [3]. The diagnosis is not always easy to establish. The use of an expanded panel of immunohistochemistry markers helps the achievement of the correct diagnosis.

The therapeutic approach cannot be radical. It aims to improve patient quality life [5]. The treatment is generally palliative based on radiotherapy which purpose to limit tumor spread and to relieve pain [11]. Chemotherapy or hormone therapy can be helpful for some patients. These treatments are associated with improvement of local symptoms and vision. Surgery, if feasible remains palliative and restricted to some cases. It is generally not recommended because complete tumor resection is difficult to obtain. The prognosis is generally poor [12]. Most of patients died few months after diagnosis [4].

Conclusion

Although metastases of breast cancer to nasal cavity and paranasal sinuses are rare, the presence of orbital signs or

rhinosinusitis symptoms in a patient with a past history of breast cancer even if it's cured should raise the awareness of the practitioner. The prognosis remains poor for the majority of reported cases in literature.

Ethical Statement

Authors declares that they have no conflict of interests. The case report is a retrospective study based on patient's data. There was no experimentation on humans or animals.

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