CASE REPORT

Facial palsy as unusual complication of spontaneous intraparotid hematoma

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Abstract A 55-year-old healthy female without trauma history visited our hospital for rapidly progressive enlarging right side painful neck mass within 5 days and also with comorbid House-Brackmann Grade V facial palsy for 2 days. Magnetic resonance imaging showed heterogenous mass derived from parotid to parapharyngeal space. Much blood clot could be observed at exploratory operation. Only inflammatory change, but not tumor, was mentioned in pathology report. Facial palsy was kept stationary in Grade III from postoperative 6 months.

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Introduction

The parapharyngeal space (PPS) is an inverted pyramidal space that extends from the base of the skull to the hyoid bone, confined medially by the lateral pharyngeal wall and laterally by the mandible and parotid. Parapharyngeal tumors account for just 0.5% of all head and neck tumors [1], with 45% being of neurogenic origin and 30% originating from the salivary gland [2]. Benign lesions, such as hematomas or an aberrant carotid artery, also occasionally occur in this region [3]. Magnetic resonance imaging (MRI) tends to produce better quality images than does computed tomography (CT) scanning [4]. Spontaneous carotid artery rupture, iatrogenic injury, and parathyroid lesions have all been reported as causes of atraumatic hematoma in this region. Hematomas usually present as a rapidly progressing neck mass, rarely with comorbid cranial neuropathy, and tend to occur in individuals with an underlying medical condition, such as hypertension, hemophilia, or coagulopathy [5]. Herein, we describe an adult case of a spontaneous intraparotid hematoma with symptomatic facial palsy. To our knowledge, this is the first literature report of such a case in searching the Pubmed before.

Case presentation

A 55-year-old woman visited our hospital for right side upper neck swelling for 5 days and ipsilateral House-Brackmann Grade V facial palsy for 2 days. Physical examination showed diffuse swelling in the right parotid region. Nonpulsatile peritonsillar swelling with smooth mucosa was also noted in the oral cavity. The vocal folds were mobile and the supraglottic larynx was patent and smooth. The patient’s clinical history and laboratory data were unremarkable. A neck CT
scan revealed a heterogeneous tumor with soft tissue density. Fine needle aspiration showed more than 50 mL of bloody fluid. The empirical antibiotics amoxicillin/clavulanic acid was prescribed. MRI with gadolinium revealed a huge parotid mass with extensive PPS and some retropharyngeal space involvement with perifocal enhancement. The mass produced a low signal on T1WI and a high signal on T2WI (Fig. 1). The patient underwent an exploratory operation because facial palsy and local swelling persisted and orthopnea progressed in the third admission day (Fig. 2). During the surgery, the hematoma infiltrated the parotid parenchyma and involved the PPS in either the prestyloid or poststyloid region (Fig. 3). No malignancy was detected on frozen section. Postoperatively, the patient passed extubation smoothly, but Grade V facial palsy persisted with no other complicating cranial palsy. Fixed tissue pathology noted an accumulation of hemosiderin-laden macrophages without the presence of a remarkable tumor. The wound healed evenly but the Grade III facial palsy persisted after 6 months postoperatively.

Discussion

This case illustrates a quite unusual complication and route of bleeding from an unknown source, which resulted in an intraparotid hematoma. The MRI was conducted in two reasons.

First, better soft tissue resolution in the MRI images helps to distinguish the hematoma and abscess from tumor tissue. Second, the images are less affected by a dental prosthesis [5]. Interestingly, different types of tumors present differently in MRI. For example, pleomorphic adenoma shows a homogenous lesion with a low signal in T1WI and a high signal in T2WI, whereas Warthin’s tumors present with a low signal in both T1WI and T2WI [6]. Neurilemomas show moderate signal intensity in T1WI and mixed high uptake in T2WI [7], whereas paragangliomas present with a specific “salt and pepper” signal. Besides paraganglioma and hemangioma, which may show an irregular margin, low intensity in T1WI and high density in T2WI elicit great concern preoperatively because of the indication of high lesion vascularity, which could predispose the patient to
uncontrolled blood loss during surgery and then transcervical external carotid artery ligation may be acquired.

The present case is critical in the following aspects. Although multiple specific conditions may predispose a patient to develop a hematoma [8], spontaneous atraumatic hematoma without an underlying medical or iatrogenic condition is extremely rare. Paleri et al. [8] reviewed the literature from 1934 to 1999 and noted only one case which presented as a PPS hematoma resulting from straining, whereas most neck hematomas were noted in the retropharyngeal space. Briefly, PPS hematoma can occur following trauma [9], complication of an invasive procedure, stellate ganglion block [10], cardiac catheterization [11], and rupture of the aneurysm [3] or even carotid artery rupture [12]. Spontaneous PPS hematoma is absolutely rare [13,14].

The importance of airway patency cannot be overemphasized. Surgical intervention should be arranged as soon as possible once the airway is compromised. Evacuation of the hematoma and removal of the tumor should be arranged only after meticulous airway management, including tracheotomy when necessary, has been completed [12]. In fact, intubation or tracheotomy would be required in approximately 41% of cases of neck space hematoma [1].

This type of lesion mimics a tumor in its induction of comorbid facial palsy. There have been sporadic reports from various conditions of hematoma resulting from an identified bleeder or in individuals with an underlying bleeding tendency. It is challenging to differentiate hematoma from most PPS tumors because of its nonspecific appearance on imaging, especially in cases of lack of risk factors, such as coagulopathy and hypertension.

Although PPS tumors are rare and mostly benign, comorbid facial palsy is considered as a positive predictor of malignancy; our case demonstrates that idiopathic hematoma may mimic this finding. Hence, hematoma deserves consideration in tumors occurring in the post-styloid process compartment of the PPS, especially when patients have a rapid, progressive course. The mass effect associated with the rapid enlargement of the hematoma, either with spontaneous origin or procedure induced [15], would result in facial palsy. The parotid gland is covered within the dense regular collagenous connective tissue and the dermis [16]. Pressure generated from the enlarging mass hardly release by protruding externally. Urgent surgical intervention remains the definitive management.

References