



## A Rare Facial Myoepithelioma in Facial Nerve Danger Territory Zone

Hojjat Molaei, Sohrab Moradi Bajestani\*, Arjang Ghahremani, Soheil Broomand and Mohammad Masoud Heidary

Department of Plastic and Reconstructive Surgery, Tehran University of Medical Sciences, Iran

### Abstract

Myoepitheliomas of the head and neck region are one of the neoplasms related to the soft tissue. The involvement of salivary gland is usual but the involvement of the masticator space is extremely rare. In this study, we reported a case of myoepithelioma of the masticator space in a 56-year-old female with the chief complaint of painless mass. The mass was reoccurred after excision which was done previously. The diagnosis was made by pathological study and complete resection of the lesion was the surgical approach. The lesion resected successfully and the branches of the facial nerve and parotid tract remained intact.

**Keywords:** Myoepithelioma; Soft tissue neoplasms; Facial nerve; Masticator space

### Introduction

Myoepithelial neoplasms are some of the neoplasms arising in soft tissues and skin and characterized by their specific morphological and, immunohistochemical features [1]. These neoplasms occur in a wide age range and are mostly benign; although, they can locally recur in some cases [2,3]. The most common symptom of these lesions is painless subcutaneous mass which can be present in most of the patients [4].

Myoepithelial neoplasms include pleomorphic adenomas, myoepitheliomas and myoepithelial carcinomas [5]. Myoepithelioma is one of the rare neoplasms of the salivary gland which consist of undifferentiated myoepithelial cells and can be present as subcutaneous nodules [6]. The occurrence of myoepithelioma is extremely rare in the head and neck region [7].

In this study, we present a case of myoepithelioma of the soft tissue which was located in the masticator space.

### Case Presentation

A 56-year-old woman referred to our plastic surgery clinic with the chief complaint of a progressive mass in the left side of her face at the buccal area. The mass was painless and has been presented 3 years ago. At the time of the presentation, the mass was excised by a surgeon; however, it was reappeared after 2 years. The patient referred to the plastic and reconstructive surgery clinic due to the likelihood of the facial nerve damage.

In the physical examination, there was not any sign of erythema and other sign in the observation of the skin. Moreover, a 3 cm × 3 cm mass was palpated in the buccal area which was indurated to the skin side. The mass was firm, movable and without tenderness. There was not any sign of lymphadenopathy.

An MRI was requested for the patient for further assessment. In the MRI, a heterogeneous-enhancing mass with the measure of 28 mm × 26 mm × 22 mm was located superficially in the left masticator space which was indicated as the residual or recurrent tumoral lesion (Figure 1).

The plan was excision of the mass while saving facial nerve branches and even parotid gland, due to their close proximity to the lesion. In addition, it was preferred to exam facial branches under general anesthesia without muscle relaxants and save them.

The patient was sent to the operation room for the excisional biopsy of the mass. After general anesthesia, an incision was made on the site of the previous scar; the buccal and zygomatic branches of the facial nerve were determined by the nerve stimulator and separated from the tumor. There was not any sign of the parotid gland damage and the parotid tract was intact. The tumor with its

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#### \*Correspondence:

Sohrab Moradi Bajestani, Department of Plastic and Reconstructive Surgery, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran, Tel: 989123770755; E-mail: dr.smoradib@gmail.com

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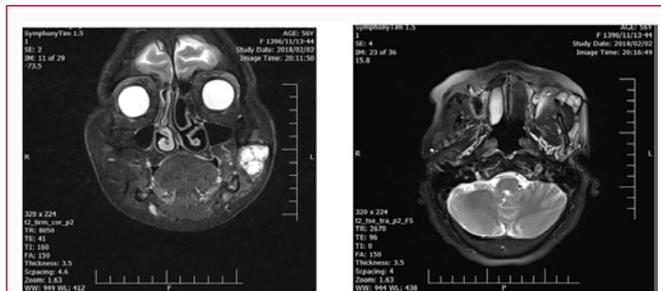
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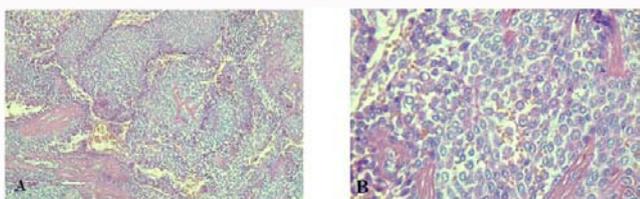
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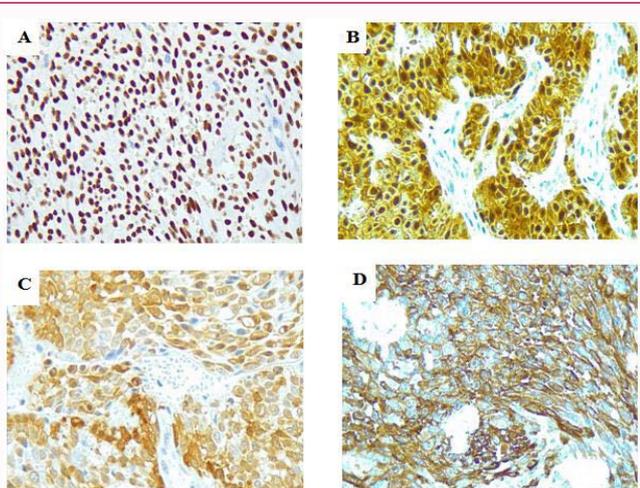
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**Figure 1:** The MRI of the patient. A superficial, high signal, heterogeneous mass was seen at the left masseteric space of the face which indicating residual tumor.



**Figure 2:** H&E staining of the tumor. A: Multinodular pattern of the lesion is seen in this figure. B: Spindle shaped cell in a hyaline stroma.



**Figure 3:** A: P63 Staining of the tumor. B: S100 staining of the lesion. C: Calponin stain. D: smooth muscle actin staining.

capsule was completely excised from masseteric space and the wound site was repaired in two layers after the hemostasis and fixation of a drain.

In the gross pathologic study, the tumor was an ovoid solid mass with a multinodular growth pattern. In the microscopic assessment, the tumor was composed of spindle-shaped cells in a hyaline stroma and had a mixed pattern (Figure 2). Furthermore, the tumor was positive in P63 and calponin in addition to the S100. Moreover, smooth muscle actin was positive in IHC staining of the lesion. All of the pathologic findings were suggestive myoepithelioma (Figure 3).

The tumor resected completely during the surgery. After the operation, the examination of the facial nerve was normal and the patient was discharged from our clinic after 1 day with a good general condition. A control MRI was done for the patient after 6 months and there was not any sign of recurrence in the massicator space.

## Discussion

In this study, we report an extremely rare case of myoepithelioma in the soft tissue space of the masticator area. To the best of our knowledge, there are only two cases of the myoepithelioma of the masticator space [8,9].

Myoepitheliomas were initially assumed as a type of pleomorphic adenoma in the salivary glands [10]. These neoplasms have four various morphological patterns including non-myxoid (solid), myxoid, reticular, and mixed [11]. Our case had a mixed morphological pattern which consists of solid and myxoid component. In addition, The cellular components of myoepitheliomas consist of spindle cells, epithelioid cells, plasmacytoid cells and clear cell [12,13]. The case of the study had a myoepithelioma including epithelioid and spindle cells.

We made our diagnosis based in the morphological and pathological features of the mass. In the present case, the lesion was consisting of largely of spindle-shaped cells with ovoid nuclei. In addition, tumor cells were diffusely positive with P63, S100 protein, calponin and, alpha smooth muscle actin. Calponin and alpha smooth muscle actin are two major antibodies related to the smooth muscle which are specific for myoepithelioma [14,15]. In addition, P63 is one of the specific antibody of the salivary gland tumor such as myoepithelioma [16].

Myoepithelial tumors of the soft tissue have the potential for local recurrence [17]; therefore, complete surgical resection of these lesions is the best surgical choice. The case of the current study had the history of myoepithelioma 3 years ago which was excised by another surgeon but the lesion was recurred at the time of the presentation; thus, complete surgical resection was done for the patient.

## Conclusion

Soft tissue neoplasms such as myoepithelioma should be considered in the case of recurrent mass of the head and neck.

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