

## CASE REPORT

# Post-traumatic lipoma of the parotid gland: case report

## *Lipoma post-traumatico della parotide: caso clinico*

F. DISPENZA, A. DE STEFANO<sup>1</sup>, G. ROMANO<sup>2</sup>, A. MAZZONI<sup>2</sup>

Otorhinolaryngology Department, University of Palermo; <sup>1</sup>Otorhinolaryngology Clinic, University "G. D'Annunzio", Chieti-Pescara, Chieti; <sup>2</sup>Gruppo Otologico, Piacenza, Italy

## SUMMARY

The incidence of lipoma among parotid tumours ranges from 0.6% to 4.4%, with most series reporting an incidence of 1%. The most common origin of these tumours, in the parotid gland, is from the superficial lobe and, only rarely, from the deep lobe. Lipomas, upon clinical history, are found to be most frequently related to an episode of trauma. Computed Tomography scan and Magnetic Resonance Imaging can lead to a pre-operative diagnosis of lipoma. The case is described of lipoma of the superficial lobe of the parotid gland.

KEY WORDS: Parotid • Lipoma • Facial palsy • Diagnosis • Surgical treatment

## RIASSUNTO

I lipomi della parotide rappresentano lo 0,6%-4,4% dei tumori della ghiandola. Diversi studi riportano un'incidenza dell'1%. Più comunemente questi tumori originano nel lobo superficiale della parotide e solo raramente da quello profondo. I lipomi sono frequentemente correlati ad un pregresso episodio traumatico della regione coinvolta. La tomografia computerizzata e la risonanza magnetica possono condurre ad una diagnosi di lipoma pre-operatoria. Riportiamo un caso di lipoma del lobo superficiale della parotide.

PAROLE CHIAVE: *Parotide • Lipoma • Paralisi facciale • Diagnosi • Terapia chirurgica*

Acta Otorhinolaryngol Ital 2008;28:87-88

## Introduction

Lipoma is a common benign tumour of mesenchymal origin, arising in every location where fat is normally present, 13% of which occurring in the head and neck region. Rarely, lipomas can arise in the oral cavity, pharynx, larynx and parotid gland<sup>1</sup>. The incidence of lipoma among parotid tumours ranges from 0.6% to 4.4%, with most series reporting an incidence of 1%<sup>2</sup>. A case of post-traumatic lipoma of the parotid gland is described.

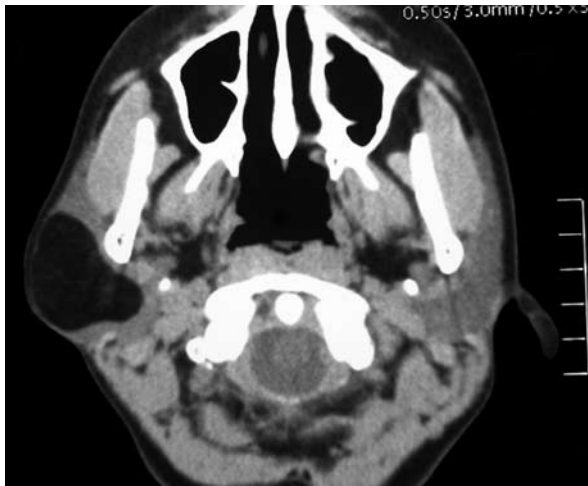
## Case report

A 30-year-old female had experienced a painless, slow growing, mass on the right side of the face, 5 years previously, after a trauma due to a bite on that area. Examination revealed a soft, mobile, non tender, regular mass in the right parotid extending toward the neck. There was no detectable cervical lymph nodes. Progressive paresis of the mandibular branch of the facial nerve had become evident over the last 3 months. The computed tomography (CT) scan revealed a well demarcated low density mass 5 x 5 cm, in the superficial lobe of the right parotid gland (Fig. 1). The magnetic resonance imaging (MRI) scan showed a high signal intensity on T1-weighted images (Fig. 2) and

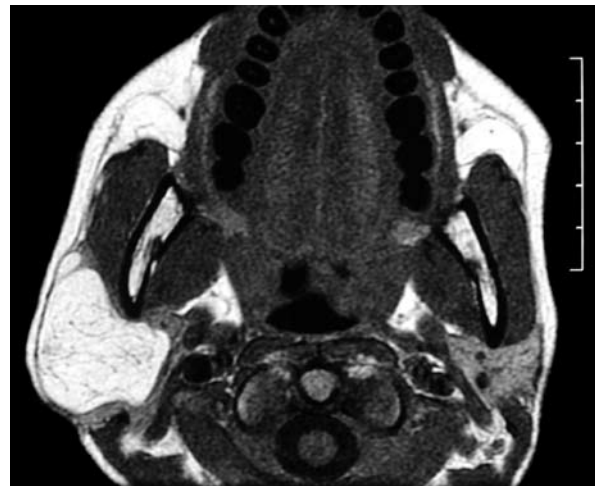
intermediate intensity on T2-weighted images. The lesion extended to both superficial and deep lobes of the gland leaving a small portion in the deep lobe. These results were consistent with a lipomatous lesion. Surgical removal of the tumour with facial nerve preservation was performed. Post-operative facial nerve function was normal with resolution of mandibular branch paresis. Histopathology confirmed the diagnosis of lipoma.

## Discussion and conclusion

Adipose tissue is normally present in the parotid gland, but the incidence of lipomas here is very low. Different causes of lipomas are mentioned in the literature: heredity, obesity, diabetes, radiation, endocrine disorders, insulin injection, corticosteroid therapy and trauma. As in our case, trauma and lipoma are found to be most frequently correlated on clinical history<sup>3</sup>. Trauma to soft tissue has been hypothesized to result in haematoma, with subsequent lymphatic effusion, fat necrosis and lipoma formation located in the subcutaneous plane<sup>4</sup>. The local effects related to the trauma, in our case, were not well defined since a long period of time had elapsed from presentation of the patient, but a local haematoma was present in the clinical history. The facial nerve is not usually involved, but one case with complete palsy



**Fig. 1.** CT scan shows a well demarcated low density mass in superficial lobe of right parotid gland with residual portion of deep lobe.



**Fig. 2.** MRI scan shows high signal intensity on T1-weighted image. Black rim around mass clearly defines borders from subcutaneous tissue.

has been reported in the literature<sup>5</sup>. The highest reported incidence of lipoma in the parotid gland is 4.4%<sup>2</sup>, with males most frequently affected (62.5%)<sup>6</sup>. Sonography can be used as the initial study and shows a hyper-echoic elliptical or rounded mass, sometimes iso-echoic or even hypo-echoic<sup>6</sup>. CT shows a homogeneous mass with few septations and less than water density<sup>1</sup>. MRI presents the typical signal intensity patterns already described. A black rim is present around the mass clearly defining the borders from the subcutaneous tissue. In the literature, correct categorization of benign vs. malignant parotid gland tumour has been reported to be 87% after CT/MRI examination<sup>7</sup>, lipoma can be distinguished from well-differentiated liposarcoma by the presence of thick septa, the presence of nodular/globular or non-adipose mass-like areas<sup>8</sup>. Fine-needle aspiration biopsy (FNAB), commonly performed in the diagnostic

work-up for parotid mass, does not provide sufficient data for diagnosis<sup>9</sup>. During surgery, the facial nerve is identified and followed up to its peripheral branches, as far as necessary for tumour dissection. In our case, the facial nerve was compressed and displaced. This could explain the palsy of the inferior branch due to compression, corresponding to a first-degree injury described by Sunderland<sup>10</sup>. The neural block is created by increased intra-neural pressure and the nerve cannot conduct an impulse across the site of compression. If the compression is relieved, return of facial movement may begin immediately or within 3 weeks<sup>10</sup>. A correct clinical and instrumental evaluation of parotid gland masses, including both CT scan and MRI, can lead to a pre-operative diagnosis of lipoma. Imaging is also important to evaluate the location of the tumour and to programme the correct surgical approach.

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Received: April 19, 2007- Accepted: July 17, 2007