



## Parapharyngeal lipoma: a case report

### Parafarengeal lipoma: Olgu sunumu

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A 44-years-old male presented with right infraauricular swelling. It had been four months since he was aware of the mass. He had not felt any pain or tenderness. Computed tomography demonstrated a homogenous, regular surfaced mass located in the prestyloid and poststyloid parapharyngeal space. Its density was concordant with lipomatous tissue, so it was considered to be an infiltrating parapharyngeal lipoma. Postoperative diagnosis revealed a similar result. We believe that computed tomography is an effective method of diagnosing parapharyngeal space tumors and transparotid approach for this localization is very useful for both preserving facial nerve functions and exposing the mass clearly. We report a case of parapharyngeal lipoma slightly invading the deep lobe of the parotid gland.

**Key Words:** Computed tomography; lipoma; neoplasm, parotid; parapharyngeal space; tumor.

Kırk dört yaşında erkek hasta sağ tarafında kulak altında şişlik yakınması ile kliniğimize başvurdu. Öyküsünden hastanın dört aydır kitlenin farkında olduğu ve herhangi bir ağrı ya da hassasiyet hissetmediği anlaşıldı. Bilgisayarlı tomografi incelemesinde prestiloid ve poststiloid parafarengeal mesafeyi tutan, homojen, düzgün yüzeyli bir kitle saptandı. Kitlenin yoğunluğu yağ dokusuyla uyumluydu ve bu yüzden infiltran parafarengeal lipoma olarak değerlendirildi. Ameliyat sonrasındaki patolojik tanı da benzer sonucu gösterdi. İnaniyoruz ki bilgisayarlı tomografi parafarengeal bölge tümörlerinin tanısında oldukça etkili bir yöntemdir ve bu alandaki tümörlerin tedavisinde transparotid yaklaşım hem fasiyal sinir fonksiyonlarının korunmasında hem de kitlenin ekspoze edilmesinde değerli bir yöntemdir. Bu makalede parotid glandın derin lobunu hafifçe invaze eden bir parafarengeal lipoma olgusu sunuldu.

**Anahtar Sözcükler:** Bilgisayarlı tomografi; lipoma; neoplazma, parotid; parafarengeal alan; tümör.

Lipomas are the most common benign mesenchymal tumors with a prevalence rate of 2.1 per 100 people.<sup>[1]</sup> Most of them are small, weighing only a few grams and usually less than 2 cm in dimension. However, presentation of a lipoma in the head and neck is extremely rare, especially in infiltrating forms. Rarer still are infiltrating lipomas reported to be localized in the parapharyngeal region.<sup>[2]</sup> Here we present an additional case of parapharyngeal lipoma which minimally invaded the deep lobe of the parotid

gland. We discussed our diagnostic work-up and treatment strategies in the light of the literature.

#### CASE REPORT

A 44-old-male was referred to our clinic with a right infra-auricular swelling. It had been four months since he had recognized the mass. He had not felt any pain or tenderness. On physical examination, a 5x5 cm mass located in the right parotid location was felt, which was soft on palpation and did not

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adhere to the overlying skin. There was no facial paresis or palsy. Other head, neck and systemic examination findings were normal. The parotid ultrasound revealed a hyperechoic lesion with no definite vascularity located in the posteroinferior portion of the right parotid gland. A prediagnose of an adenoma or a lipoma has been reported. On contrast computed tomography (CT) scan, there was a hypodense, regular-surfaced, homogeneous mass located in the prestyloid and poststyloid parapharyngeal spaces. The mass minimally infiltrated into the medial lobe of the parotid gland and its dimensions were calculated as 5.5x7x2.5 cm, with a density of -115HU concordant with lipomatous tissue. A possible diagnosis of an infiltrating lipoma was reported (Fig. 1). The fine needle aspiration biopsy (FNAB) was non-diagnostic.

The parotid gland was exposed through a modified Blair incision. Full exposure of the facial nerve and its branches was achieved via a superficial parotidectomy. The removal of the deep lobe parotid lipoma was done by enucleation (Fig. 2, 3). No complications occurred either during the operation or postoperatively. The patient was discharged from the hospital on the sixth day of the operation and he has been under control for eight months with no recurrence (Fig. 4, 5).

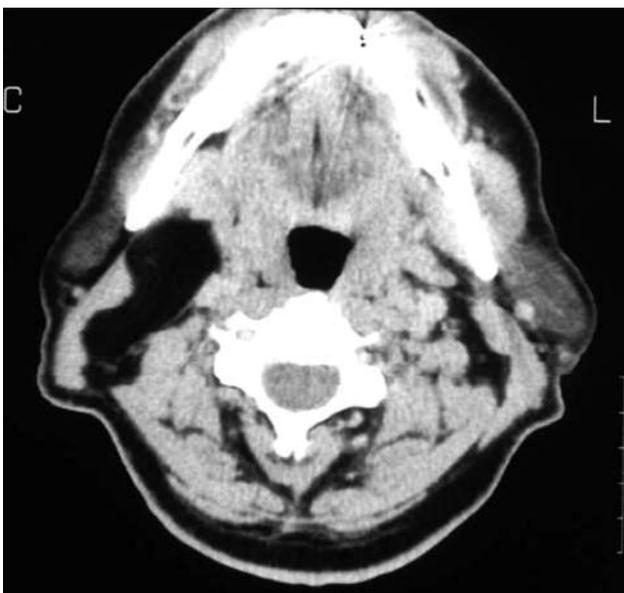
### DISCUSSION

Neoplasms of the parapharyngeal space are relatively rare, accounting for less than 1% of the tumors of

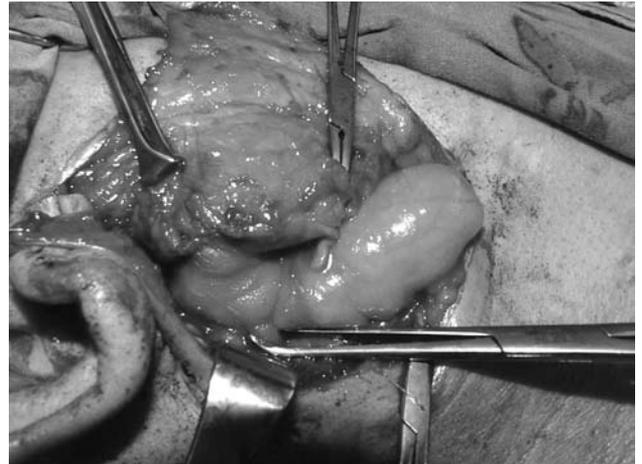
the head end neck. Most of them are benign.<sup>[2]</sup> Work and Hybels<sup>[3]</sup> found that 50% of parapharyngeal space tumors were of salivary gland origin, 30% were neurogenic and 20% were of miscellaneous origins. Lipomas involving this space are extremely rare and only eleven cases have been reported in the literature except for our case.<sup>[4-7]</sup>

The evaluation of soft tissue tumors through imaging has undergone a dramatic evaluation with the advent of the CT and magnetic resonance (MR) imaging that are very useful methods for definite differential diagnosis. The sonographic appearance of a lipoma is that of a hyperechoic mass.<sup>[8]</sup> Although the hyperechoic appearance suggests fat, Murphey et al.<sup>[9]</sup> and others advocate CT or MR imaging, because these techniques are significantly superior for the confident identification of adipose tissue in these locations.

Computed tomography and MR imaging of a soft tissue lipoma reveal a mass of homogenous adipose tissue in 11-12% of the cases.<sup>[10-13]</sup> Hounsfield unit measurements of soft-tissue lipomas are usually



**Fig. 1.** Axial computed tomography scan of parapharyngeal mass located in the prestyloid and poststyloid compartment.



**Fig. 2.** Peroperative photograph of the mass which is enucleated from the parapharyngeal space.



**Fig. 3.** Total removal of the mass with deep lobe of the parotid gland.

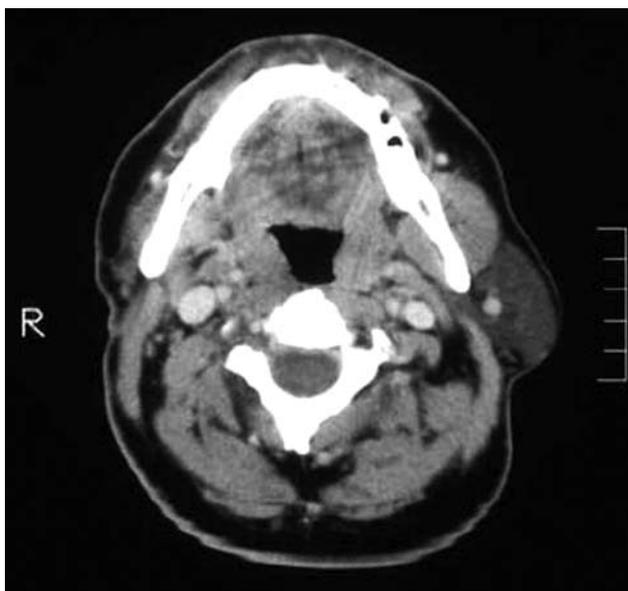


Fig. 4. Axial computed tomography scan of the patient after six months with no evidence of recurrence.

between  $-65$  and  $-120$ , although the value varies depending on the specific body location. Direct comparison with the attenuation of the surrounding normal fat is also helpful.<sup>[14,15]</sup> These cases, in which the entire lesion is composed of only adipose tissue allow a confident diagnosis of lipoma through the CT or MR imaging.<sup>[16]</sup> No contrast enhancement is observed at the CT or MR imaging except for the fibrous capsule.<sup>[13]</sup>

A fine needle aspiration biopsy, which is commonly performed for the diagnosis of many neck masses and salivary gland tumors, did not enable us to diagnose the lipoma. Similarly, Kimura et al.,<sup>[6]</sup> Ülkü et al.,<sup>[7]</sup> Layfield et al.<sup>[14]</sup> and some others did not provide sufficient information to make a diagnosis in their cases. We therefore do not advocate FNAB in cases of suspected lipomatous tumors.

The choice of the surgical approach to a parapharyngeal mass depends on the location, size, vascularity, and malignancy potential of the tumor.<sup>[15]</sup> The transcervical and transcervical-transmandibular approach may be used for tumors up to 8 cm and larger than 8 cm, respectively. Bass<sup>[16]</sup> described the transparotid approach, which is often used to remove deep lobe parotid tumors. In this case, a total excision of the deep lobe tumor is achieved after the full exposure of the facial nerve. When this method is used, the recurrence rate is as low as 5% for lipoma cases. The incidence of

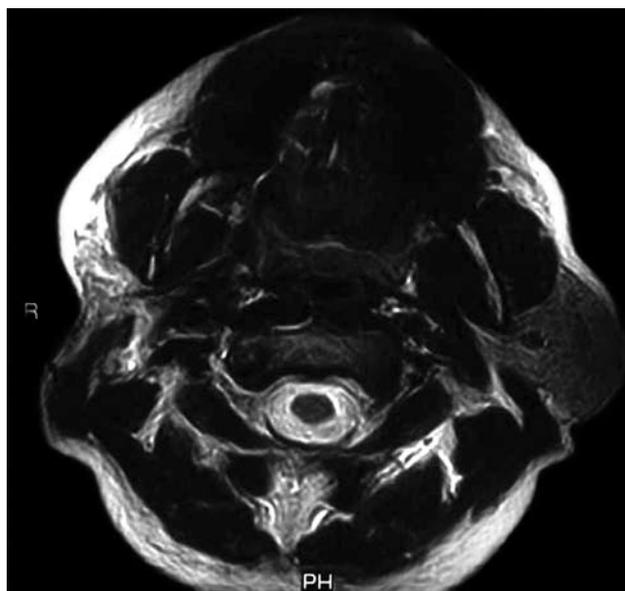


Fig. 5. Postoperative magnetik resonanse imaging of the patient.

facial nerve dysfunction is as high as 80% after the surgery of the deep lobe parotid lipoma.<sup>[7]</sup> In order to avoid this serious complication, the nerve must be fully exposed no matter whether monitoring is used or not. In our case, there was no facial nerve dysfunction postoperatively and no recurrence was observed after eight months of follow up.

In conclusion, lipomas located in the parapharyngeal region are extremely rare. The CT and MR imaging techniques guide the surgeon for the appropriate diagnosis and treatment plan. One of the main concerns involved is maintaining the normal facial nerve function after the operation. To achieve this goal, full exposure of all the branches of the nerve is of utmost importance. The total excision of the parapharyngeal mass should only be made subsequent to this step.

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