Case Report / Olgu Sunumu

A huge retropharyngeal lipoma causing obstructive sleep apnea

Tıkayıcı uyku apnesine neden olan dev retrofarengeal lipom

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ABSTRACT

The tumors of retropharyngeal area are infrequent and lipomas of this region are extremely rarely seen. Patients with tumors of the retropharyngeal area may remain asymptomatic for a long time, due to the expansion ability of this space. Herein, we report a case with severe obstructive sleep apnea due to a huge retropharyngeal lipoma.

Keywords: Lipoma; obstructive sleep apnea; retropharyngeal space; surgery.

ÖZ

Retrofarengeal bölgenin tümörleri sık görülmemekle birlikte, bu bölgede lipomlara oldukça nadir rastlanır. Retrofarengeal bölgede tümörü olan hastalar, bu bölgenin genişleme özelliği nedeniyle, uzun süre asemptomatik olabilir. Bu yazıda, dev retrofarengeal lipom nedeniyle şiddetli düzeyde tıkayıcı uyku apnesi olan bir olgu sunuldu.

Anahtar Sözcükler: Lipom; tıkayıcı uyku apnesi; retrofarengeal alan; cerrahi.

Lipomas are commonly seen tumors of mesenchymal origin that are generally reported as subcutaneous lesions.[1] However, retropharyngeal lipoma is an extremely rare tumor.[2] Tumors of the retropharyngeal area are often asymptomatic until they reach huge dimensions that cause compression on neighboring structures. For that reason, diagnosis is generally delayed until the appearance of symptoms of compression such as dysphagia or airway obstruction. For the exact diagnosis and determination of borders or size of lesion, computed tomography (CT) or magnetic resonance imaging (MRI) may be useful.[3] Fine needle aspiration biopsy may also aid in histological diagnosis although total excision of the mass is required for the exact diagnosis. In this paper, we report a giant retropharyngeal lipoma causing severe obstructive sleep apnea (OSA) that dramatically improved after the excision of lipoma.

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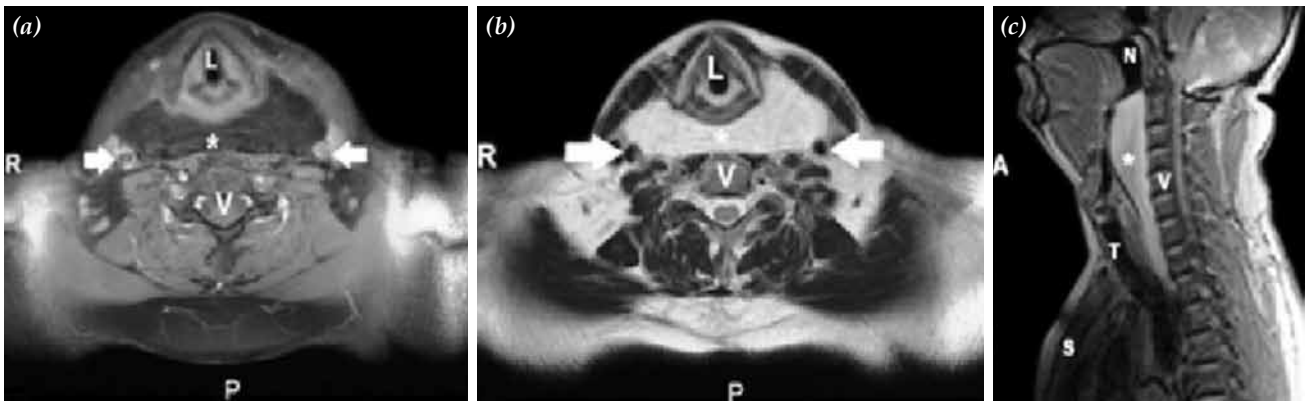

Figure 1. *Preoperative magnetic resonance imaging scans* ***(a)*** *T_1-weighted axial scan* ***(b)*** *T_2-weighted axial scan* ***(c)*** *T_2-weighted sagittal scan showing a huge lipoma in the retropharyngeal space.* *White arrow: Carotid artery; R: Right; P: Posterior; A: Anterior; *: Mass; L: Larynx; V: Vertebra; N: Naso-pharynx; T: Trachea; S: Sternum.*

CASE REPORT

A 51-year-old man was admitted to another center with complaints of progressive snoring and sleep apnea for 25 years and referred to our clinic due to a retropharyngeal mass determined by physical examination and other investigations. On physical examination, there was a diffuse swelling of his neck. Endoscopic examination revealed a submucosal swelling on the posterior pharyngeal wall, from nasopharynx to proximal esophagus. On MRI, there was a 10x15 cm mass on the posterior pharyngeal wall starting from the upper border of the oropharynx, extending through the pharynx and reaching the lower proximal esophagus, pushing the soft palate and uvula forward, covering the larynx and pushing the neurovascular bundle laterally compatible with lipoma (Figure 1). Polysomnography (PSG) revealed an apnea-hypopnea index (AHI) of 75. Excision was performed via a left transcervical approach under general anesthesia. A lipomatous mass was dissected from the prevertebral area pushing the neurovascular to the anterolateral side (Figure 2). It was observed to go through the upper mediastinum from the level of the skull base, passing through the contralateral side posterior to the esophagus. This mass was dissected from esophagus, prevertebral region and neurovascular bundle and totally excised (Figures 3, 4). The histopathological diagnosis was lipoma. No complication was reported in the postoperative period. There was no residual or recurrent mass on physical examination or

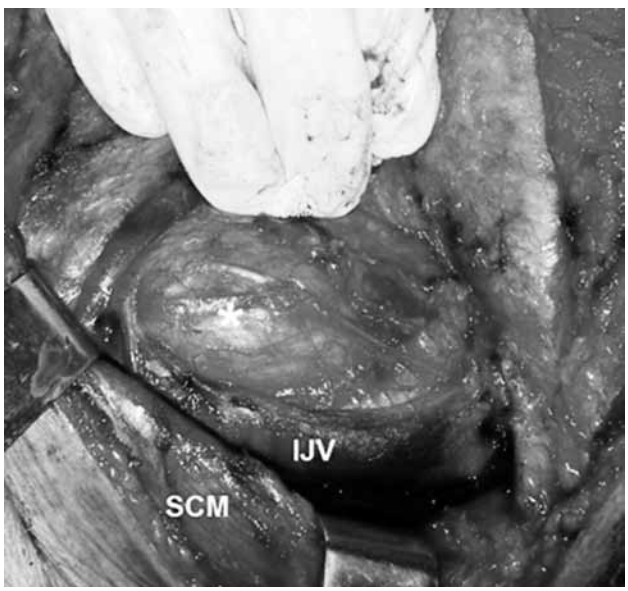

Figure 2. *Intraoperative view of the lipomatous mass pushing the neurovascular bundle to the anterolateral* *SCM: Sternocleidomastoid mass; IJV: Internal jugular vein, *: Mass.*

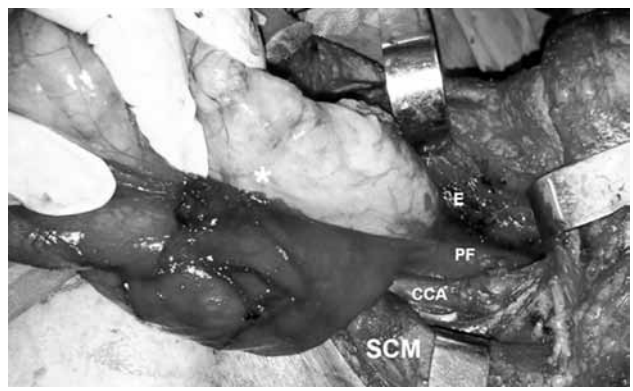

Figure 3. *Intraoperative view showing relations with anatomical structures.* *CCA: Common carotid artery; PF: Prevertebral fascia; SCM: Sternocleidomastoid muscle; E: Esophagus; *: Mass.*

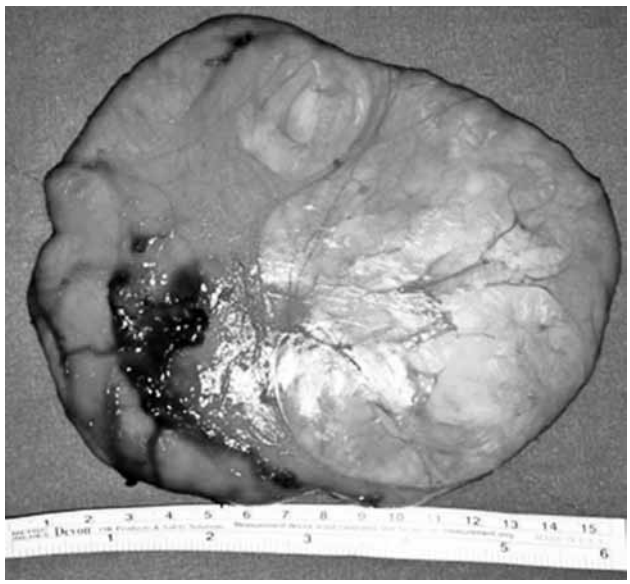

Figure 4. *Totally-excised mass measuring 5x10 cm.*

control MRI in the second postoperative month (Figure 5) and the AHI value was 31 on repeat PSG. Written informed consent was obtained from the patient for this report.

DISCUSSION

The retropharyngeal space is located between the middle and deep layers of cervical fascia from the skull base to the mediastinum. This space comprises lymph nodes and fat tissue.[4] The most common mass lesions reported in the retropharyngeal area are inflammatory or tumoral lymph node enlargements followed by malignancies of neighboring tissues.[4] The symptoms of lipomas may vary depending on the localization (commonly reported in the posterior cervical triangle) and when located in the retropharyngeal area, may reach huge dimensions until they become symptomatic.[2,5] Owing to the expansile capability of the retropharyngeal space, slowly-growing tumors generally do not become symptomatic till they reach huge dimensions. The most common symptoms are wheezing, dyspnea, dysphagia and snoring as in our case.[4,6,7] The mass should reach quite huge dimensions to cause OSA as previously reported in a few cases.[1,6] In our case, the OSA symptoms which were present for a long time were investigated with preoperative PSG and severe OSA (AHI: 75) was determined.

The clinical diagnosis of retropharyngeal lipomas is quite difficult since they are extremely rare. The pathognomonic radiological features of lipomas may aid in this condition. On CT, they are observed as contrast repellent, regular bordered, generally homogenous areas. Sometimes, they may contain thin septa inside.[8] On MRI, they are seen as repressed in fat suppressed images and with high signal densities on T_1 and T_2 sequences.[9] The differential diagnosis includes well differentiated liposarcomas and imaging techniques may also aid in differentiation-most importantly, the septas are thin and regular in lipoma while they are thick and nodular in liposarcoma. Moreover, as in our

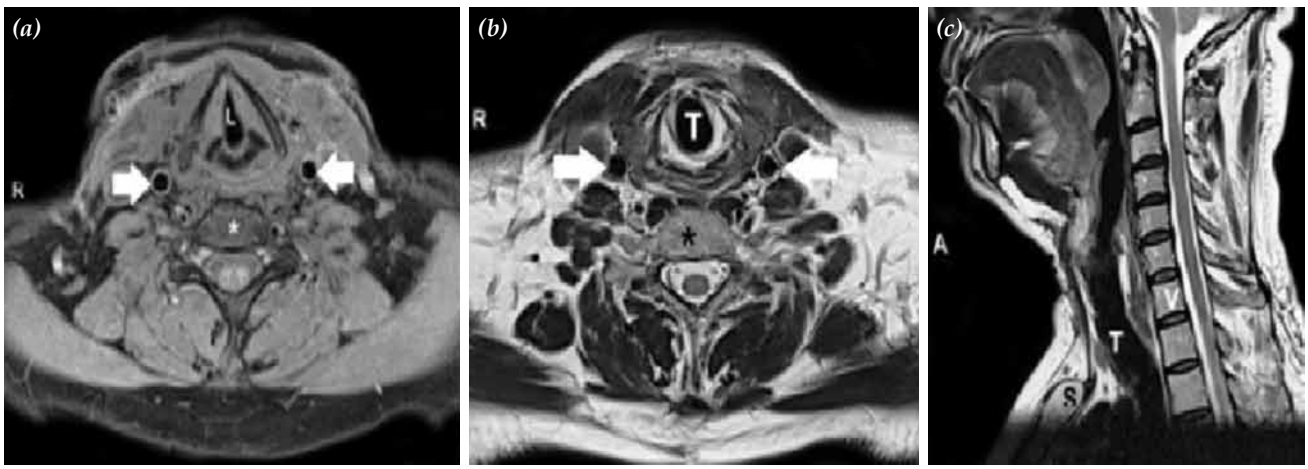

Figure 5. *Postoperative magnetic resonance imaging scans at two months,* ***(a)*** *T_1-weighted axial scan* ***(b)*** *T_2-weighted axial scan* ***(c)*** *T_2-weighted sagittal scan showing no mass in the retropharyngeal space.* *White arrow: Carotid artery; R: Right; A: Anterior; *: Vertebra; L: Larynx; V: Vertebra; N: Nasopharynx; T: Trachea; S: Sternum.*

case, in lipomas, fibrous septa do not keep intravenously administered contrast material inside, but some level of contrast enhancement is observed in septa of well differentiated liposarcomas.[10] In our case, preoperative MRI evaluation was compatible with lipoma.

In determining treatment approach, the localization of lipoma, other systemic problems and general condition of the patient are important. Although some cases reported in the literature were followed up since the patient denied surgery, the definitive treatment of retropharyngeal lipomas is surgery.[1,5,6,11] The treatment of large or deeply located symptomatic lipomas is classically total excision with its capsule. Although there are many surgical approaches in treatment of retropharyngeal lipomas, the best surgical field of view can be obtained by a transcervical approach, which is preferred for huge retropharyngeal lipomas.[6] As in our case, this approach enables a larger field of view and total excision of the mass.

When the case reports in the literature were reviewed, we could not find a retropharyngeal lipoma as large as that of our case. Furthermore, of the few cases with postoperative AHI values reported, all had lipomas smaller than our case.[12,13] Moreover, we could not find a case report with an AHI value as high as our case that decreased significantly after operation -- more than 50% decrease in PSG in the second postoperative month – with no complications or residual mass on physical examination or radiological evaluations.

In conclusion, because lipomas do not possess metastasic potential and their malignant transformation potential is controversial while their surgical excision may be difficult, clinical and radiological follow-up may be advised for lipomatous lesions of retropharyngeal region with small dimensions. However, large and symptomatic retropharyngeal lipomas should be totally excised. In patients with the complaints of snoring and sleep apnea, the differential diagnosis should also include retropharyngeal masses such as lipoma.

Declaration of conflicting interests

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REFERENCES

1. Hockstein NG, Anderson TA, Moonis G, Gustafson KS, Mirza N. Retropharyngeal lipoma causing obstructive sleep apnea: case report including five-year follow-up. Laryngoscope 2002;112:1603-5.
2. Eisele DW, Landis GH. Retropharyngeal infiltrating lipoma--a case report. Head Neck Surg 1988;10:416-21.
3. Senchenkov A, Werning JW, Staren ED. Radiographic assessment of the infiltrating retropharyngeal lipoma. Otolaryngol Head Neck Surg 2001;125:658-60.
4. Davis WL, Harnsberger HR, Smoker WR, Watanabe AS. Retropharyngeal space: evaluation of normal anatomy and diseases with CT and MR imaging. Radiology 1990;174:59-64.
5. Ulku CH, Uyar Y, Unaldi D. Management of lipomas arising from deep lobe of the parotid gland. Auris Nasus Larynx 2005;32:49-53
6. Namyslowski G, Scierski W, Misiolek M, Urbaniec N, Lange D. Huge retropharyngeal lipoma causing obstructive sleep apnea: A case report. Eur Arch Otorhinolaryngol 2006;263:738-40.
7. Yoshihara T, Kawano K, Mita N. Retropharyngeal lipoma causing severe dysphagia and dyspnea. J Otolaryngol 1998;27:363-6.
8. Akhtar J, Shaykhon M, Crocker J, D'Souza AR. Retropharyngeal lipoma causing dysphagia. Eur Arch Otorhinolaryngol 2001;258:458-9.
9. Abdullah BJ, Liam CK, Kaur H, Mathew KM. Parapharyngeal space lipoma causing sleep apnoea. Br J Radiol 1997;70:1063-5.
10. Kim JY, Park JM, Lim GY, Chun KA, Park YH, Yoo JY. Atypical benign lipomatous tumors in the soft tissue: radiographic and pathologic correlation. J Comput Assist Tomogr 2002;26:1063-8.
11. Lakadamyali H, Ergun T, Lakadamyali H, Avci S. A giant retropharyngeal lipoma showing no change in clinical presentation and size within a two-year follow-up: a case report. [Article in Turkish] Kulak Burun Bogaz Ihtis Derg 2008;18:374-6.
12. Casale M, Salvinelli F, Mallio CA, Frari V, Vincenzi B, Bressi F, et al. Upper airway study should always come before any sleep study in OSAS evaluation: a giant parapharyngeal lipoma behind OSAS. Eur Rev Med Pharmacol Sci 2012;16:106-9.
13. Pellanda A, Zagury S, Pasche P. Parapharyngeal lipoma causing obstructive sleep apnea syndrome. Otolaryngol Head Neck Surg 2003;128:301-2.