

Giant Retropharyngeal Lipoma

Introduction

Lipoma in the head and neck is relatively rare and retropharyngeal lipoma is even rarer in this area. Not more than 45 cases of lipoma retropharyngeal have been found in the literature since 1877 to 2014. It is a benign tumor that consists of adipose tissue cells, which appears as a soft mass without any severe symptoms unless it reaches large size [1]. Literature reported that the tumor was discovered accidentally when a computed tomography (CT) scan of the head and neck for other diseases was performed [2,3]. Retropharyngeal lipoma usually occurs in adults over the age of 35 years [4], although in children aged 11 and 12 years have also been reported in the literature [5,6]. Therapy will be a transoral or transcervical approach of excision. Low prevalence rates in the world makes a discussion about this disease to be interesting; especially case that occurred in Dr. Soetomo Hospital is a retropharyngeal lipoma with a relatively large size.

Case Report

A 44-year-old man, presented with a 2-year history of abnormal sensation in the throat and progressive dysphagia. He was admitted to our hospital in January 2014 due to dyspnea, dysphagia, speech disturbance, and obstruction in the nose. Physical and endoscopic examinations revealed a neck swelling and bulging of the posterior pharyngeal wall. X-ray films of the neck showed a large soft-tissue mass pushing the trachea forward. CT scan result was fat dominant lesion in retropharyngeal space as high as corpus VC 2 - VC 6, with a size of 10 cm x 5 cm x 10 cm. The lesion was pressing the posterior wall of the oropharynx and hypopharynx to the anterior and narrowing both structures. The lesion extended to the right and left region colli (Figure 1). Fine needle aspiration biopsy was also failed because of oedema of the tissue and gave unrepresentative specimen.

Tracheotomy and transcervical resection (U-shaped incision) were performed. Tumor mass was released from surrounding tissue, such as the carotid artery, bilateral jugular vein, esophagus, and trachea and was removed intoto. Its weighted 850 grams with a size of 19 cm x 14 cm x 7 cm. Pathologic examinations confirmed a benign noninfiltrating lipoma, consists of mature fat cell proliferation, monotonous with fibrous connective tissue of which referred to fibrolipoma appearance (Figure 2).

After surgery, all symptoms disappeared and the tracheotomy could be closed. The postoperative course has been good so far.

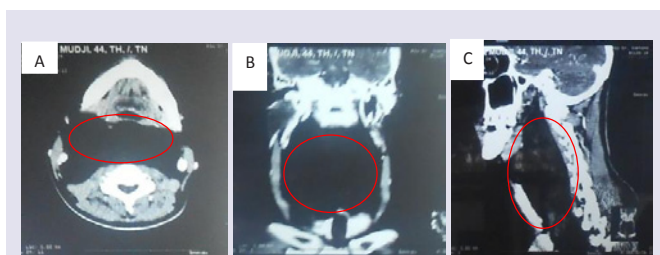


Figure 1: Head and neck CT scan revealed fat dominant lesion in retropharyngeal space as high as corpus VC 2-6 with a size of 10 x 5 x 10 cm.



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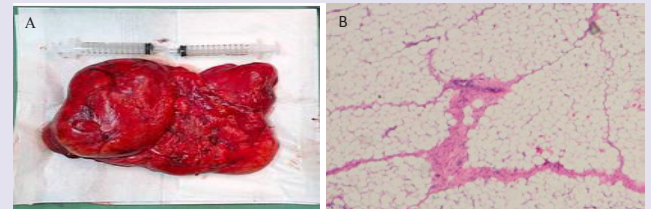


Figure 2: Retropharyngeal lipoma A. Macroscopic B. Microscopic. Its weighted 850 grams with a size of 19 cm x 14 cm x 7 cm. Pathologic examinations confirmed a benign noninfiltrating lipoma, consists of mature fat cell proliferation.

Discussion

Lipoma is a benign tumor that derived from fat cells and coated by capsule [7]. It is relatively rare occurrence in the head and neck, with the most frequent manifestation in this area is in posterior trigonum of the neck. Lipoma rarely found in the anterior colli, infratemporal fossa, oral cavity, larynx, nasopharynx or parapharyngeal space, and extremely rarely found in the retropharyngeal space [8,9]. Retropharyngeal lipoma case is not clearly described in the literature study, as shown in Table 1 that since 1877 until now, not more than 46 cases are reported, including this case.

From all cases that were found during 1887-2013, lipoma size varies however shows a pattern of the same size over the period 1912-2001 with range between 150-250 cm³ and tend to fluctuate since this time. Moreover, the biggest size continues to increase, especially in 2006, 2007, 20011, 2013 and 2014. The increasing of the size occurred two to four times, about 250 cm³ in early 1900, increased to 400 cm³ in a hundred years later (2006) and continues to increase within shorter time cycles (five years) to about 800 cm³ and finally increased to about 1800 cm³ in 2014. From Figure 3 below clearly shows that the size of the retropharyngeal lipoma operated at Hospital Dr. Soetomo, it is the largest single lipoma in history (giant lipoma).

Retropharyngeal is a wide space, from the base of the skull to the superior of mediastinum. Lipoma in this space will give various

Table 1: Summary of lipoma retropharyngeal cases [1-3,5-7,10-20].

No	Writer	Year	Age (year)	Gender	Lipoma's Size (cm)	Symptoms	Supporting Examination	Surgery
1.	Taylor	1877	4	Female	7,02 x 8,19	Not available	Not available	Not available
2.	Roe	1879	7	Female	Big	Not available	Not available	Not available
3.	Milligan	1902	37	Female	Extending from palatummolle to hypopharynx	Not available		
4.	Kenyon	1912	27	Female	10 x7 x 3	Not available	Not available	Not available
5.	Rethi	1917	47	Female	120 gram	Not available	Not available	Not available
6.	Pfalz	1918	Aged	Male	6,5 x 6 x 4	Not available	Not available	Not available
7.	Tusini	1923			5 x 6 x 9	Not available	Not available	Not available
8.	Hajek	1924	40	Female	Length: 15 cm	Not available	Not available	Not available
9.	Faulder & Jefferson	1924	Aged	Male	Length: 15 cm	Not available	Not available	Not available
10.	Woods	1924	41	Male	Bigger than a fist	Not available	Not available	Not available
11.	Carrega	1926	60	Male	Big	Not available	Not available	Not available
12.	Figi & Hunt	1927	50	Male	7 x 6 x 2,5	Not available	Not available	Not available
13.	New	1931	51	Male	7 x 5 x 4	Not available	Not available	Not available
14.	Patterson	1933	42	Male	Length: 7cm	Not available	Not available	Not available
15.	Larsen	1934	71	Male	9 x 7 x 2,5	Not available	Not available	Not available
16.	Putney & Fry	1940	57	Male	12 x 7 x 3	Not available	Not available	Not available
17.	Putney & Fry	1940	40	Male	10 x 5,5	Not available	Not available	Not available
18.	McFarland	1948	3month	Female	3,51 x 2,34	Not available	Not available	Not available
19.	Paulsen	1972	38	Female	As big as an ostrich egg	Not available	Not available	Not available
20.	Kenefick	1974	51	Female	15 x 10 x 3	Not available	Not available	Not available
21.	Topozoda	1975	37	Female	9 x 7	Not available	Not available	Not available
22.	Younus	1980	71	Male	12 x 8 x 4	Not available	Not available	Not available
23.	Johnson & Curtin	1987	57	Male	Extending from larynx to the thyroid	Not available	Not available	Not available
24.	Fisele & Landis	1988	69	Male	4 x 3	Not available	Not available	Not available
25.	Chandermohan, et al	1991	37	Female	5 x 4 x 4	Not available	Not available	Not available
26.	Yoshihara T, et al	1996	67	Male	S: 17 x 11 D: 11 x 8 458 g	4,7,8,9	CT scan, MRI, Incisional biopsy	Tracheotomy Transcervical
27.	Aland	1996	36	Male	8 x 4 x 6	1,2,3,4,5,6	CT scan	Transoral
28.	Girolamo, et al	1998	56	Male	9,5 x 6 x 4	1,2,3	CT scan FNA	Transoral
29.	Rosell, et al	1998	56	Female	3 x 5	7	CT scan	Observation during 19 years
30.	Akhtar, et al	2001	76	Male		4,6		
31.	Senchenko, et al	2001	49	Female	8 x 5 x 4	1,2,3,4	CT scan MRI	Transervical
32.	Hockstein, et al	2002	64	Male		1,2,3	CT scan MRI FNA	CPAP therapy
33.	Shivakumar, et al	2004	12	Male	3,8 x 2,6	1,4,5	CT scan	Trakeostomi Transoral
34.	Ferri, et al	2005	52	Female	4 x 3 x 7	4,7	CT scan MRI	Transoral & Transervical
35.	Gong, et al	2005	11	Female	8 x 4 x 2	2,3,5	CT scan	Transoral
36.	Namyslowsky, et al	2006	40	Male	11,7 x 7,2 x 4,5	1,2,3,4	CT scan	CPAP therapy
37.	Piccin, et al	2007	73	Female	5 x 2 x 2,5	1,2,3,5,6	CT scan	Transoral
38.	Pillai, et al	2007	42	Male	8 x 5 x 11	1,8,9	CT scan	Transoral
39.	Gupta, et al	2007	65	Male		4,8	CT scan	Transervical
40.	Huang, et al	2009	17	Male	4 x 4 x 1	1,2,3,4	MRI	Transoral
41.	Sethi, et al	2010	35	Not available	Not available	Not available	MRI	Transervical
42.	Tuncyurek, et al	2011	44	Female	Not available	1,2,3,4	Not available	Not available
43.	Chhetri	2011	66	Female	6,2 x 9,1 x 14	4,9	CT scan Excisional biopsy	Trakeostomi Transervical
44.	Lee, et al	2013	69	Female	10 x 5 x 11	4,9	CT scan	Transervical
45.	Chua, et al	2013	71	Male	9,4 x 6,7	4	CT scan	Transoral
46.	This case	2014	44	Male	19 x 14 x 7 850 g	4,5,8,9	CT scan	Transervical

Description of symptoms: 1. Snoring, 2. Sleepy at noon, 3. Sleep apnea, 4. Dysphagia, 5. Nasal obstruction, 6. Speech disorders, 7. Globus pharyngeus, 8. Disfonia. 9. Dispneu. No 1-26 cited from 13.

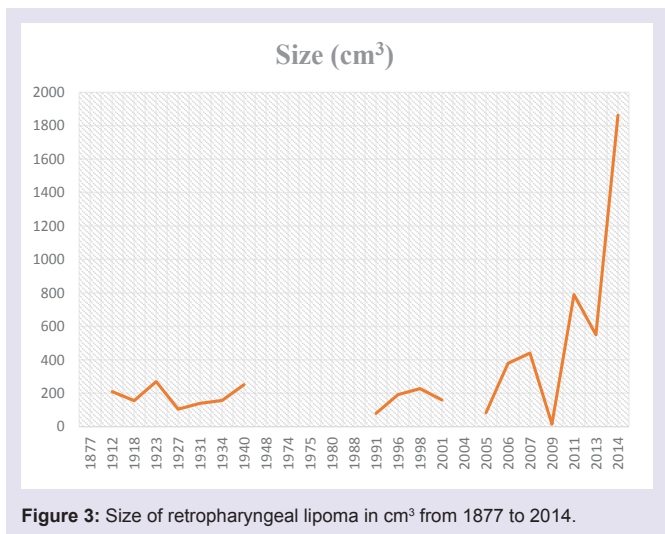


Figure 3: Size of retropharyngeal lipoma in cm³ from 1877 to 2014.

symptoms, depending on the affected part of aero digestive tract, such as nasal obstruction, tightness, hoarseness, snoring, and a sense of prop when swallowing food, depend on the location and size of the tumor [3,6,10-13]. The patient had early symptoms of nasal obstruction during sleeping on right side and prop sense when swallowing, followed by longer process of swallowing, snoring, hoarseness, and dyspnea while sleeping.

CT scan is helpful in diagnosing this disease preoperatively. Radiographic characteristics of lipoma retropharyngeal like typical lipoma in other parts of the body. Lipoma appears as a homogeneous period with low attenuation without a clear capsule that resembles the fat with -50 to -150 Hounse field Units (HU) [14]. CT scan or MRI will differentiate lipoma from liposarcoma retropharynx because both diseases are very different in terms of therapy. Surgery will not be enough for liposarcoma, but should be followed by chemoradiation [7].

Liposarcoma on MRI is shown as hyperintense lesions on T1 without using contrast, thickening septa, unrelated adipose mass, prominent foci with increasing T2 signal and protrusion of enhancement area. MRI has better contrast resolution, allowing the anatomical structure and boundaries of the tumor that looks better than CT scan. MRI also shows the spatial relationship of tumor and blood vessels more clearly [15]. In this case, specifically MRI couldn't be performed due to the patient felt dyspnea in supine position. Large retropharyngeal lipoma will give pressure to aero digestivus tract causing difficulty in breathing and swallowing food, therefore it must be excised.

Retropharyngeal lipoma surgery options can be trans-oral excision or transcervical. Each approach has its advantages and disadvantages. Transoral approach has the advantage of lower post-surgery morbidity, shorter hospitalization time, and no scar tissue on the neck. The disadvantage is not able to see the large blood vessels properly. This action is usually chose when the size of lipoma is not too large, though it isn't impossible to do transoral approach in large lipoma as reported in Singapore, retropharyngeal lipoma which already extends into space of parapharynx successfully removed intoto

with transoral approach. The procedure chosen by the consideration that lipoma has a capsule and can yield [16].

Transcervical approach is an option for a large lipoma because this approach gives a better surgical area, easier access so lipoma removal can be done by intoto. The disadvantage of this approach is the post-surgery morbidity is greater than transoral approach and there is a possibility damaging cranialis nerve and carotid artery [16]. In this case, transcervical excision was selected because very large tumor mass size 19 cm x 14 cm x 7 cm. Tracheotomy was performed first with the consideration of a difficult intubation. Literature reported airway management in a large lipoma retropharynx using glidescope for intubation in order to avoid tracheotomy before performing transcervical excision [17].

Macroscopically, lipoma may be single or lobulated, soft or sometimes felt cystic. Microscopically, lipoma is seen as aggregation of mature adipose cells which is coated by a thin capsule. Lipoma may be divided into several subclasses based on histology, that are classic lipoma (either solitary or multiple), fibrolipoma [18], angioliipoma, infiltrating lipomas, intramuscular lipoma, hibernoma, pleimorphic lipoma, lipoblastomastosis, and diffuse lipoblastomatosis [19]. Post-surgery, tissue was sent for pathological examination anatomy revealed macroscopic and microscopic pattern suitable for retropharyngeal fibrolipoma [20,21].

Generally, lipoma is rarely relapsing. In this patient, evaluation was undertaken in a month and seven months post-surgery respectively. It was concluded that no tumor recurrence was found on physical examination, fiber optic laryngoscopy, and CT scan.

Conclusion

Have reported a male patient, 44 years old, with giant retropharyngeal lipoma that has a size of 19 cm x 14 cm x 7 cm who has already been done tracheotomy and removal of the tumor through the transcervical approach. Evaluation seven months after surgery showed no recurrence obtained.

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