Giant Subcutaneous Solitary Lipoma Arising in the Neck - Case Report and Review of Literature

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Giant Subcutaneous Solitary Lipoma Arising in the Neck - Case Report and Review of Literature

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Abstract

Lipomas are adipose tumours which are one of the commonest and most benign of all tumors. They are composed of fat cells of adult type. Most favoured site of lipomas in the head and neck region is cheek followed by the tongue, floor of the mouth, buccal sulcus, vestibule, lip, palate and gingiva. Lipomas have been identified in all age groups but they usually appear between 40 and 60 years of age. Solitary lipomas are more common in women and multiple tumours (referred to as lipomatosis) are more common in men. A case of giant subcutaneous solitary lipoma, with a rapid growth rate in the neck region (greater than 4 cm) is presented in a 55 year old man. The excision produced excellent cosmetic results and no functional impairment.

Introduction

Lipomas are adipose tumours usually present subcutaneously. They are one of the most common mesenchymal and benign of all tumors. They are composed of fat cells of adult type. They can occur anywhere in the body where there is accumulation of fat cells, thus they are often called as a "universal tumor" or a "ubiquitous tumor"[1,2]. Cheek is the most favoured site in head and neck region followed by the tongue, floor of the mouth, buccal sulcus, vestibule, lip, palate and gingiva[3]. Lipomas are classified as subcutaneous type, subfascial type or intermuscular type. Lipomas have been identified in all age groups but usually appear between 40 and 60 years of age [4]. Solitary lipomas are more common in women and multiple tumours (referred to as lipomatosis) are more common in men.

Treatment modalities for lipomas range from liposuction, steroid injection to surgical excisions [5]. We report a case of giant subcutaneous lipoma in the anterior neck region and present the clinical and histopathological findings along with the review of literature.

Case Report

A 55 year old male was referred with a chief complaint of swelling in the anterior region of the lower jaw since 4 years. No treatment was undertaken as the growth was slow and painless. The swelling showed rapid growth since last 5 months. There was no history of trauma to the area. Patient did not have any complaint of pain, dyspnea and dysphagia. There was no history of weight loss or fever. On clinical examination, the mass was 4 × 5 cm in size with smooth surface and diffuse margins. The mass was unattached to the overlying skin and the overlying skin was stretched without signs of inflammation or prominent veins. The mass was non tender, soft and movable. The patient had no lymphadenopathy or any other palpable mass. Laboratory findings were within normal limits. On radiographic examination, panoramic image showed no bony changes in the symphyseal region and teeth in the area were vital and normal (illustration -1). Fine needle aspiration cytology was not productive. To facilitate the diagnosis of a lipoma, specific imaging such as ultrasound or magnetic resonance imaging (MRI) is needed but the patient came from a poor and rural area and could not afford expensive diagnostic techniques. So, an OPG was taken to rule out any dental/oral pathology.

Before the surgery, the incision was outlined with a marker on skin surface in submental region (illustration - 2).

A 4 mm incision was made over the lipoma. Blunt dissection with dissecting scissors was done subcutaneously to free the lipoma from the surrounding tissue. Once dissected free, lipoma was delivered as a whole (illustration -3). Primary closure was done in layers and pressure packing was given to prevent hematoma formation. Specimen was submitted for histopathological analysis (illustration- 4). Post operative recovery was uneventful.

Histopathological Examination

Histopathological examination of specimen showed lobules of mature fat cells, enclosed in a thin fibrous capsule( illustration 5) which was characterized by empty cytoplasm with an eccentrically placed...
nucleus (illustration 6). These lobules were separated by variable amount of connective tissue but no epithelium. There was presence of collagen fiber bundles and fibroblasts. The blood vessels also were seen which were dilated and engorged at a few places. Histopathologically the lesion was confirmed to be a lipoma.

Review of literature

Adlair et al (1932) [6], Geschickter et al (1934) [7] and Bick (1936) [8] reviewed that lipomas were uncommon in children. They were usually smaller than 5 cm on the trunk, shoulder, upper arm and the hand. They were commonly reported in females. Howard & Helwing (1960) [9] found greater frequency of multiple lipomas in females than males. Berendes (1974) [10] found an autosomal dominant mode of inheritance with low penetrance and suggested that this condition should be considered as a specific entity unrelated to solitary lipoma. Dixon et al (1981) [11] reported proportions of angiolipomas in patients with multiple lipomas. Channaouni et al (1981) [12] concluded that the lipomas were semi-liquid at room temperature, change in shape occur depending upon the external forces acting upon them. Berg (1983) [13] concluded that solitary lipomas of the lower arms were more frequent in young patients and males had more lipomas and located on the chest. Some of these patients probably had or were developing multiple lipomas. The sex difference for lipomas location might be due to differences in the distribution of subcutaneous fat. Enzi G (1984) [14] reviewed that solitary lipomas were common in women; multiple tumors (referred to a lipomatosis) were more common in men. Field LM (1984) [15] and Rubenstein R (1985) [16] concluded that liposuction could be better for small or larger lipomatous growths, particularly those locations where large scars should be avoided. Som (1985) [17] concluded lipomas to be the most common neoplasm of mesenchymal origin. Only 13% of them arise from head and neck region, most them occur in the posterior neck. Rarely can they develop in anterior neck, infratemporal fossa and in or around the oral cavity, pharynx, larynx and parotid gland. Sharma P (1991) [18] showed that complete elimination of the lipoma was difficult with liposuction. Bataineh A (1991) [19] advocated excellent results of squeeze delivery of subcutaneous lipomas. Medina C (2007) [5] preferred surgical excision for removal of lipomas.

Discussion

Lipomas are usually hamartomatous proliferation of mature fat cells [20]. They are benign adipose tumours of the mesenchymal origin [21]. Approximately 25% of lipomas and their variants arise in the head and neck region and most of these occur subcutaneously in the posterior neck [22]. Rarely can they develop subcutaneously in the anterior neck [23] whereas in this case it has developed in the anterior neck region. Sometimes lipomas are associated with syndromes like multiple lipomatosis [24] (lipoma over extremities and trunk), Gardner’s syndrome (intestinal polyposis, cysts, osteomas), Dercum’s disease (multiple painful subcutaneous lipomas) [25], Madelung’s disease (lipomatosis of the neck, head, shoulders and proximal extremities) [26]. A peak incidence of lipoma formation is noted in 5th and 6th decade of life [27]. Lipomas are most common in obese patient but we found it in an average built patient. Solitary lesions are most common in females (80%) and our patient is male. Cheek is the most favoured site in head and neck region followed by the tongue, floor of the mouth, buccal sulcus, vestibule, lip, palate and gingiva but we found it in anterior neck region. Intraoperatively lipomas are soft, yellow, shiny, smooth, mobile encapsulated and occasionally lobulated subcutaneous masses. Clinical features vary greatly depending upon the lesion’s size, location and rate of growth. Most benign tumours present as a painless, mobile, palpable masses which are often overlooked by patients till they become an appreciable mass [28]. Histopathologically, lipomas show lobular growth of mature fat cells, enclosed in thin fibrous capsule, which are characterized by empty cytoplasm with an eccentrically placed nucleus [29]. If lipomas infiltrates into the surrounding muscles then it is termed as an infiltrating lipoma [30]. Lipomas usually do not show any familial occurrence. Conventional lipomas have characteristic chromosomal abnormalities. For example conventional lipomas often show chromosomal rearrangements of 12q14-15,6p and 13q9 [31]. Treatment modalities for lipomas can be divided into nonexcisional (steroidal therapy) and excisional therapy [27]. Complications after excision of a lipoma are hematoma formation, surgical infection/cellulitis/fasciitis, ecchymosis, and injury to nearby nerves with permanent paraesthesiae/anesthesia, injury to nearby vessels/vascular compromise, seroma, fat embolus and muscle injury irritation [4], but careful execution of surgery, knowledge of regional anatomy, subcutaneous locations are an aid to uneventful recovery.
Conclusion

Lipomas are the most commonly encountered benign mesenchymal tumors. There is a paucity of published analogous cases in our literature, hence conclusively we propose to include lipomas in the differential diagnosis of swellings of the neck and for a clinician it is pertinent to know this entity which sometimes may be a diagnostic dilemma nevertheless simple to understand and manage.

References

Illustrations

Illustration 1

illustration 1 - Panoramic image of the patient

Illustration 2

illustration 2 - Skin incision with a marker on skin
Illustration 3

Illustration 3 - Photograph of the excised lipoma

Illustration 4

Illustration 4 - Gross view of the specimen
Illustration 5

Illustration 5 - Photomicrograph showing mature fat cells and a thin fibrous capsule.

Illustration 6

Illustration 6 - Photomicrograph showing mature fat cell, with eccentrically placed nucleus
Review 1

Review Title: Giant Subcutaneous Solitary Lipoma

Posted by Dr. William J Maloney on 29 Sep 2012 06:01:43 PM GMT

What are the main claims of the paper and how important are they?:
The purpose of this well-written article is to present a case of giant subcutaneous solitary lipoma.

Yes
Yes
Yes

If a protocol is provided, for example for a randomized controlled trial, are there any important deviations from it? If so, have the authors explained adequately why the deviations occurred?
No
Yes
No
No

Rating: 8

Comment:
Lipomas are adipose tumors which are one of the most common and benign of all tumors. Lipomas appear in all ages but are most common between 40 and 60 years of age. Solitary lipomas are more common in women. The case report shows excellent results.

Competing interests: None

Invited by the author to make a review on this article?: No

Have you previously published on this or a similar topic?: No

Experience and credentials in the specific area of science:
Clinical associate professor

How to cite: Maloney W.Giant Subcutaneous Solitary Lipoma[Review of the article 'Giant Subcutaneous Solitary Lipoma Arising in the Neck - Case Report and Review of Literature ' by ].WebmedCentral 1970;3(9):WMCRW002263
Review 2

Review Title: giant subcutaneous solitary lipoma arising in the neck- case report and review of literature

Posted by Dr. Supreet K Sawhney on 29 Apr 2011 09:03:52 AM GMT

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Rating: 7

Comment:
though the topic of the article is common in dermatology journals it is rare in maxillofacial publicatios. hence it is worth to be published.

Invited by the author to make a review on this article?: Yes

Have you previously published on this or a similar topic?: No

Experience and credentials in the specific area of science:
none

How to cite: Sawhney S.giant subcutaneous solitary lipoma arising in the neck- case report and review of literature[Review of the article 'Giant Subcutaneous Solitary Lipoma Arising in the Neck - Case Report and Review of Literature ' by ],WebmedCentral 1970;2(4):WMCRW00708
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