CASE REPORT

Lipoedematous scalp: is there an association with fatty infiltration of the parotid?

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SUMMARY

Lipoedematous scalp (LS) is an extremely rare condition characterised by a soft and boggy consistency in the scalp due to an increased layer of subcutaneous tissue. In this report, we present a case of LS in a 64-year-old Indian woman. Clinical examination revealed only vague boggy lumpiness involving the whole of occipital scalp extending to parietal scalp. MRI scalp showed diffuse fatty infiltration of the scalp, particularly at the posterior parietal and occipital convexity extending to both lateral aspects of the cranium, with homogeneous signal in keeping with fat. Incidentally MRI also found diffuse fatty infiltration of the parotids.

The aetiopathogenesis of LS is still unknown, however it is believed that the hormone leptin could be the key hormone in the dysregulation of fat deposition and distribution. This case report highlights the subtle features with which these cases can present and explores the literature on reported cases of LS.

BACKGROUND

Lipoedematous scalp (LS) is an extremely rare condition characterised by a soft and sponge-like thickened (boggy) consistency in the scalp due to an increased layer of subcutaneous tissue. It was first described by Cornbleet in 1935¹; the term lipoedematous alopecia (LA) was coined by Coskey *et al*² for cases with concurrent shortening of hair or diffuse alopecia. The aetiology and pathogenesis are still unclear.

LS is more likely found in the vertex and occipital scalp, less commonly in the temporal area.^{2,3} Patients can present with pruritus, pain, burning sensations and/or dysaesthesia; however, some may be asymptomatic. Various modalities including ultrasonography, sterile needle insertion, CT and MRI scans have reported scalp thickness values ranging between 2.2 and 22 mm; in adults, normal values at the bregma are 5.8 ± 0.12 mm.^{4,5} Histopathologically, skin biopsies tend to show hyperplasia of mature subcutaneous fat cells but no signs of inflammation or hair abnormalities.⁶

There are currently no clinical guidelines available for the treatment of LS. Most reports in the literature have not mentioned the interventions trialled on their patients. To date, there has only been one report of successful surgical management of LA through surgical debulking with scalp reduction; Cabrera *et al* reported successful medical treatment of LA using oral mycophenolate mofetil.⁷ Trials of steroids and histamines have been employed for LS with

minimal benefit.^{8–11} There is no current evidence of head massage therapy or lymphatic head massage to manage LS which is currently used to manage patients with lymphoedema.¹² Bukhari *et al* identified spontaneous resolution of LS after 13 years.¹³

We present a case of a 64-year-old Indian woman with LS which we decided to manage conservatively.

CASE PRESENTATION

A 64-year-old Indian woman presented with a history of lump back of scalp of 5 years duration. The patient said it has been slowly increasing in size. Recently she has been having pain when lying on her back. There is no history of hair loss, paraesthesia or pruritus.

Physical examination revealed no visible scalp changes or swelling. On palpation, vague boggy consistency of lumpiness involving the whole of occipital scalp extending to the parietal areas was found. This was mildly tender. No definite margin was palpable. The patient's height is 160 cm and her weight is 55 kg. Her body mass index has been calculated as 21.43. The patient does not have lipoedema of the body nor disproportionate body fat distribution.

She has diabetes which is dietary controlled. No history of alcohol intake or smoking. There was no relevant family history.

INVESTIGATIONS

Table 1 below shows the patient's lipid profile is normal.

MRI scan is shown in figure 1.

DIFFERENTIAL DIAGNOSIS

Differential diagnoses include lipoma, panniculitis, chronic infection, lipomatosis and subcutaneous neoplasm.^{3,6,8,10}

TREATMENT

As the patient had no alopecia, no treatment was available. The patient may benefit from manual lymph drainage or other massage therapy of the head.

OUTCOME AND FOLLOW-UP

She decided to try Ayurvedic treatment in India, which we plan to follow-up on and report later.

DISCUSSION

LS can be congenital or acquired; the youngest report of a 6-year-old child suggests that there may be a genetic association.¹⁴ There have been up to 80 case reports to date to the age of 77 years with a

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Table 1 Lipid profile of 64 year old Indian woman

LIPID PROFILE, HDL, LDL, CHDL	Patient values	Normal Ranges
Cholesterol (mmol/L)	4.9 mmol/L	0 - 5.2 mmol/L
Triglyceride	1.51 mmol/L	0-2 mmol/L
HDL cholesterol	1.2 (mmol/L)	0.9-2.2
Total cholesterol: HDL ratio	4.1	0 - 6 mmol/L
LDL cholesterol (calculated)	3.0 (mmol/L)	0 - 3 mmol/L

HDL, high-density lipoprotein; LDL, low-density lipoprotein.

predominance in adult Afro-Caribbean women; however, LS has more recently been described in Caucasian, Asian (Korean and Japanese) and Chinese populations in the last 10 years with only two other cases of LS reported in Indian women to date.⁸ As described by Peter *et al*,⁸ the ages of these women were 47 and 57 years with a history of itchiness, swelling over the scalp and no LA. The histopathology of these scalp lesions showed mild to moderate perivascular infiltrates of lymphocytes and histiocytes. The treatment was symptomatic with antihistamines, there was no intervention trialled to halt progression of the condition.⁸

Comorbidities suggested to be associated with LS include obesity¹⁵ and discoid lupus,¹⁶ however most subjects have been healthy. There have been no associations of LS and fatty infiltration of the parotid previously mentioned in the literature. Other differentials for fatty parotid include metabolic syndrome,¹⁷ lipoma,¹⁸ and is also associated with alcoholic cirrhosis.¹⁹ However, in our patient, she denied drinking any alcohol nor does she have any of these other conditions.

Yip *et al* suggested that leptin⁹ would likely be the candidate hormone for the pathogenesis for LS and LA due to its known roles in feedback mechanism to regulate fat mass and distribution.

Figure 1 MRI scan. A, Anterior; F, Feet; H, Head.

Learning points

- Lipoedematous scalp (LS) can present in various ethnic groups.
- There may be an association between LS and fatty infiltration of the parotid which needs to be further investigated.
- LS should be considered as a differential for patients presenting with alopecia.
- Future case reports should mention the treatments trials on LS and lipoedematous alopecia, even if there has been little success or if patients were conservatively managed.

Contributors SL: reviewed the literature and prepared the first draft of the case report. RJ: provided the case presentation and investigations, obtained the diagnosis and reviewed the draft for submission. Both authors: reviewed the draft for final submission.

Competing interests None declared.

Patient consent Obtained.

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