Hyperlipidemia and lipedematous scalp

Iqbal Bukhari, MD*; Fatma Al Mulhim, MD†; Rola Al Hoqail, MD‡.

Lipedematous scalp is the localized accumulation of fatty tissue in the subcutaneous layer of the scalp, without hair abnormalities. Lipedematous alopecia differs in that the localized accumulation of fatty tissue in the subcutaneous layer is associated with alopecia. Only two cases of lipedematous scalp without alopecia and five cases of lipedematous scalp with alopecia have been reported in the literature. We report the third case of lipedematous scalp without alopecia in an Arabic woman, in whom the condition progressed insidiously for 6 months before presentation.

*From the *Department of Dermatology, †Department of Radiology, ‡Department of Surgery, College of Medicine, King Faisal University, Al Khobar, Saudi Arabia.*

Correspondence to:
Dr. Iqbal A. Bukhari
King Fahad Hospital of the University
P.O. Box 40189
Al Khobar 31952
Saudi Arabia
E-mail: consultant@dermatologyclinics.net

Accepted for publication:
September 2003

Ann Saudi Med 2004;24(6):484-485

Case

A 57-year-old southern Saudi woman presented to the dermatology clinic with a gradual diffuse swelling and a heavy feeling over her scalp for the previous 6 months. There was no history of hair loss or pain or trauma in the head. Her medical history included supraventricular tachycardia and hypercholesterolemia. Treatment included aspirin for 8 years, atenolol for 8 years, simvastatin for 3 years, and celecoxib (Celebrex) for 3 months. The family history was negative for conditions similar to lipedematous scalp. On examination the scalp was smooth, remarkably thick, spongy, fluctuant on palpation and mildly tender. No clinical signs of inflammation or irregularities were apparent. Hair density and length were normal. She had skin type 4. Microscopic evaluation of pulled hair found no abnormalities. Serum cholesterol was 265 mg/dL (normal, <200 mg/dL), and HDL cholesterol was 65 mg/dL (normal, 35-60 mg/dL). Thyroid function tests and growth hormone levels were normal. Tests for connective tissue disorders such as ANA (antinuclear antibody) and anti-DNA were negative.

Computed tomography of the skull showed a scalp thickness of 21.2-16.9 mm at the high occipitoparietal region with subcutaneous fat being 19.2-mm thick (Figure 1, 2). An incisional biopsy of the occipitoparietal region revealed a remarkable increase in the thickness of the subcutaneous fat layer with normal epidermal and dermal layers (Figure 3). Extension of the hair follicles into the subcutaneous fat was normal and no fibrosis was detected. In addition, there was a mild superficial peivascular lymphocytic infiltrate with no accumulation of mucin in the dermis or subcutaneous tissue, as confirmed by alcian blue stain. Cultures for aerobic, anaerobic and fungal organisms from the biopsy site were

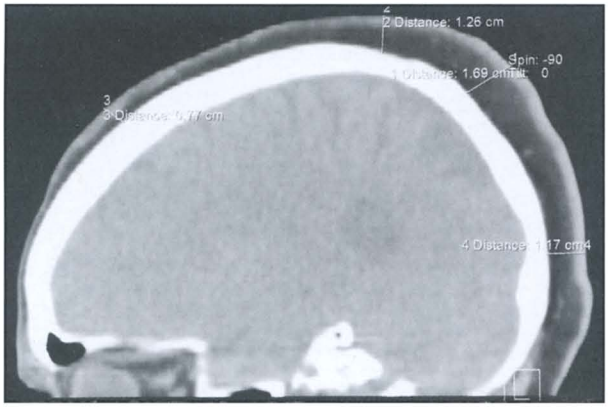

Figure 1. Sagittal reconstruction CT of the skull showing a scalp thickness in the high occipitoparietal region of 16.9 mm.

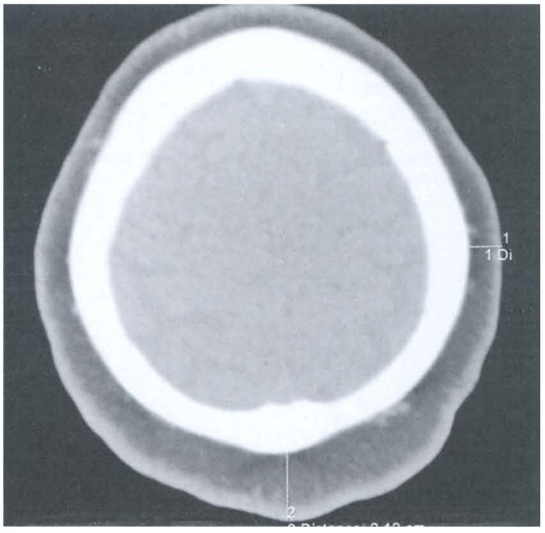

Figure 2. Axial CT showing scalp thickness in the high occipitoparietal region of 21.1 mm.

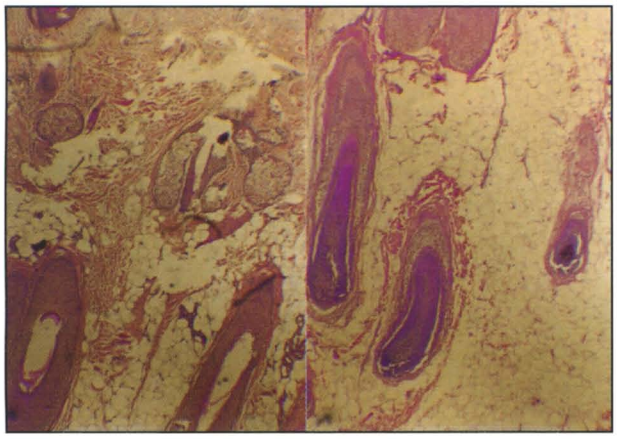

Figure 3. Two different levels of the scalp tissue from the dermis (right) and deeper in the subcutaneous layer (left) showing a marked increase in the subcutaneous fat layer.

Table 1. Scalp thickness in cases of lipedematous scalp with or without alopecia.

Source	Epidermis-subcutis (mm)	Subcutis (mm)
Coskey et al, 1961	15	13
Curtis et al, 1964	15	–
Lee et al, 1994	10.7	8.5
Kane, 1998	12.3	9.3
Fair et al, 2000	9	–
Present case	21.2	19.2

negative. Therefore, the patient was diagnosed as having lipedematous scalp. She has been followed in the clinic with no change in her condition, and is currently being treated for hyperlipidemia and the cardiac condition.

Discussion

In 1935, Cornbleet[1] described an unusual scalp swelling in a black woman without any hair abnormality. In 1961, the term lipedematous alopecia was first mentioned by Coskey et al,[2] who reported two cases of thickened scalp and shortened hair, but did not specify whether the patient was Black or of African origin. Curtis et al[3] described an additional case with skin hyperelasticity and joint hyperlaxity. Two more case reports of lipedematous alopecia in African-American women were reported by Kane et al and Fair et al.[4,5] In 1994, Lee et al[6] reported a Korean female with lipedematous scalp and no hair abnormality that was similar to our case in presentation. The normal scalp thickness in an adult person is about 5.8 mm, as documented by Garn et al[7] in a study of 523 healthy adults. Light et al[8] reported a mean scalp thickness of 5.5 mm, including a subcutaneous fat layer of 3.1 mm, in six women. In the present case, the scalp thickness was in the range of 16.9 to 21.2 mm, with the subcutaneous fat layer being 19.2 mm, which is markedly increased compared with the previously reported cases (Table 1).

This is the third reported case without alopecia and the first reported in association with hyperlipidemia. The exact pathogenesis is unknown, but the hyperlipidemia might play a role. Whether lipedematous alopecia and lipedematous scalp are distinct entities or representative of a spectrum is unknown. Further studies are needed to clarify that for us.

References

1. Cornbleet T. Cutis vertices gyrata? lipoma? **Arch Dermatol Syphilo.** 1935;32:688.
2. Cosky RJ, Fosnaugh RP, Fine J. Lipedematous alopecia. **Arch Dermatol.** 1961;84:619-622.
3. Curtis JW, Heising RA. Lipedematous alopecia associated with skin hyperelasticity. **Arch Dermatol.** 1964;89:819-820.
4. Kane KS, Kwan T, Baden HP, Bigby M. Woman with new onset boggy scalp. **Arch Dermatol.** 1998;134:499-502.
5. Fair KP, Knoell KA, Pattern JW, Rudd RJ, Greer KE. **J Cutan Pathol** 2000;27:49-53.
6. Lee JH, Sung YH, Yoon JS, Park JK. Lipedematous scalp. **Arch Dermatol.** 1994;130:802-803.
7. Garn MS, Selby S, Young R. Scalp thickness and fat loss theory of balding. **Arch Dermatol Syphilo.** 1954;70:601-608.
8. Light AE. Histologic study of human scalps exhibiting various degrees of non-specific baldness. **J Invest Dermatol.** 1949;13:53.