TUFTED HAIR FOLLICLES ASSOCIATED WITH LIPEDEMATOUS ALOPECIA: MAGNETIC RESONANCE IMAGING AND ULTRASOUND ASSESSMENT

A. Lobato-Berezo, E. López-Trujillo, RM Pujol
Hospital del Mar, Parc de Salut Mar. Barcelona

Introduction

Lipedematous alopecia (LA) is a rare, non-scarring acquired alopecia, that characterizes by an increase in scalp thickness. Its origin is still unknown. No trichoscopic features have been described in the literature.

Case report

A 33-year old man presented with progressive hair loss. Physical examination revealed a diffusely thickened, boggy scalp, mainly localized in the occipital area, with no clinical signs of inflammation (Figure 1). Androgenetic alopecia was associated with miniaturized hairs in the interparietal area. Trichoscopy of the occipital scalp, revealed areas with big yellow dots and five or more hairs emerging from a single follicle orifice similar to tufted follicles, measuring less than 2 cm long (Figure 2A, Figure2B). Scalp biopsy showed normal epidermis and dermis, with reduced anagen tufted hair follicles and a mild chronic perifollicular inflammation (Figure 3). Magnetic resonance imaging (MRI) and ultrasounds of the scalp, showed an important difference in the thickness between the vertex and the occipital area, with the latter measuring more than 25 mm (Figure 4).

Figura 1

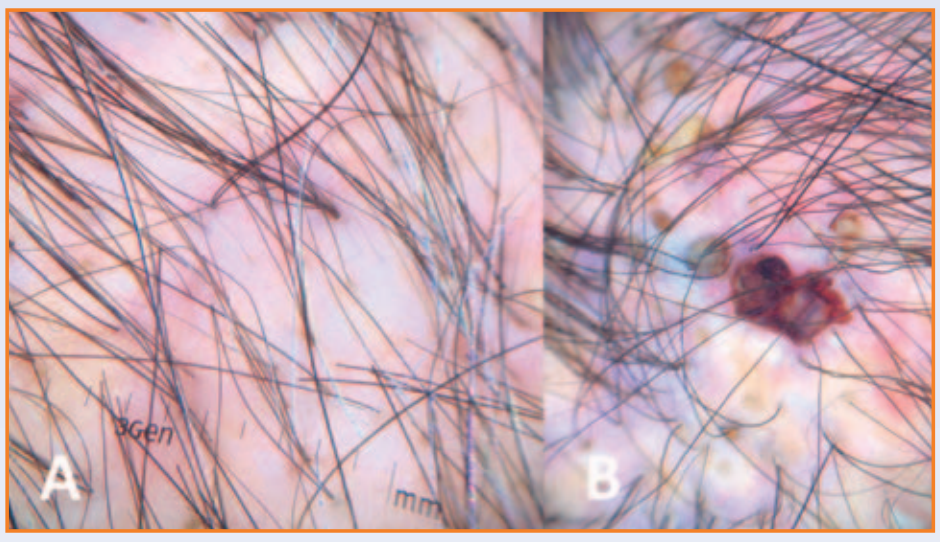

Figura 2

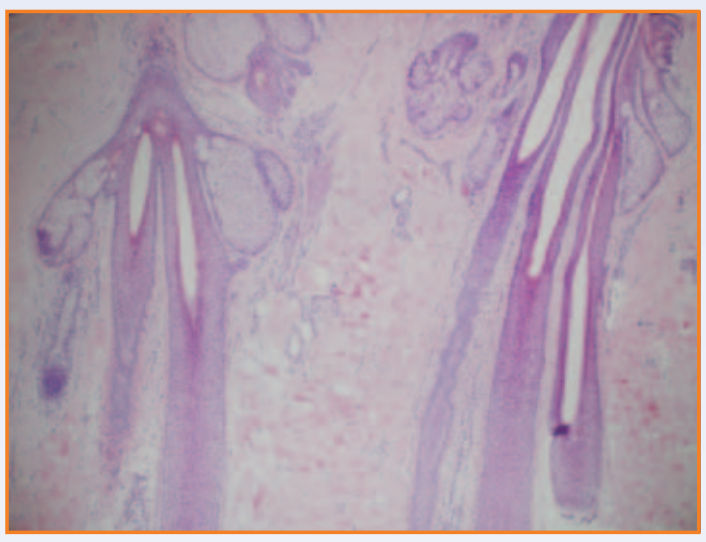

Figura 3

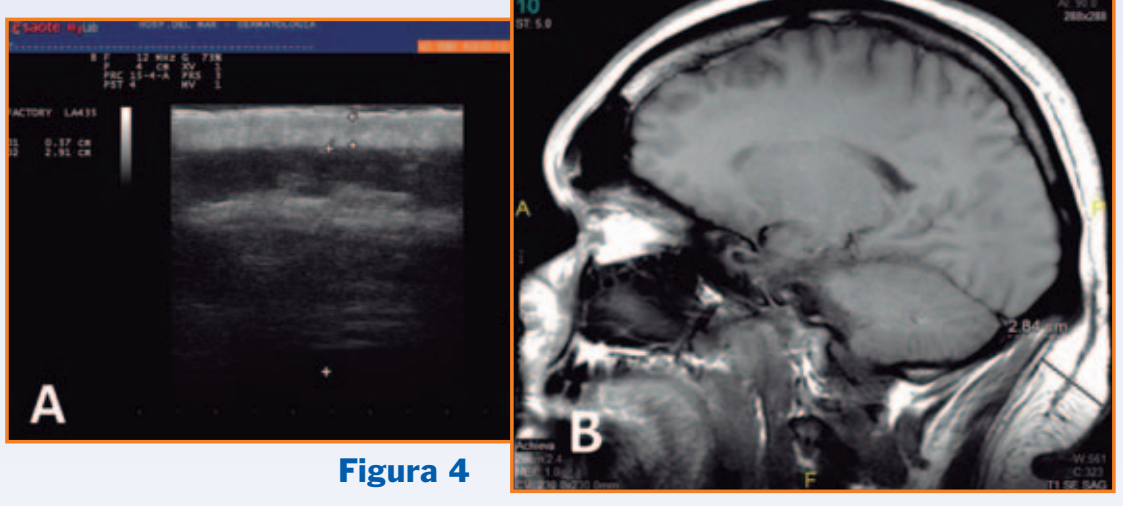

Figura 4

Discussion

LA is a rare, non-scarring acquired alopecia of unknown origin. A review of 47 cases, found that 90% were white women with a mean age of 43 years. This is the main reason why female sexual hormones are thought to play a role in the pathogenesis of LA, but evidence is still lacking. Other theories support that an increase of pressure on the hair follicles from thickening of the subcutaneous fat layer, may cause impairment of the hair bulb and the follicular papilla. Leptin hormone, metaplasia and displacement of adipose tissue have also been postulated as playing a role in the development of LA.

MRI was one of the best imaging diagnostic methods and, as far as we know, ultrasounds have only been used once by *Martin et al.* for assessing LA. Regular mean thickness of scalp is considered to be 5 to 8 mm. Both imaging tools may reveal a 9 to 19 increase in scalp thickness in LA. Cutis verticis gyrate, that is the main differential diagnosis, could be ruled out with this imaging techniques because this entity is characterized for an increased thickness of the scalp dermis with furrows or convolutions with a cerebriform resemblance.

With trichoscopy, we found bundles of tufted hairs made up of more than 5 hairs arising from single preserved hair follicles. Tufted hairs are the manifestation of a fibrosis-induced gathering of adjacent follicular structures, as well as a follicular retention of telogen phase hairs over multiple cycles. In this case, we think that the pressure on the hair follicles from thickening of the subcutaneous fat layer, might induce the fusion of the follicular structures.

We present a case of LA with distinct trichoscopic findings and we would like to remark the usefulness of ultrasounds in an outpatient department as a handy imaging tool in assessing and following-up of LA.

References

1. Müller CS, Niclou M, Vogt T, Pföhler C. Lipedematous diseases of the scalp are not separate entities but part of a spectrum of lipomatous lesions. J Dtsch Dermatol Ges. 2012;10:501-7.
2. Yasar S, Gunes P, Serdar ZA, Tosun I. Clinical and pathological features of 31 cases of lipedematous scalp and lipedematous alopecia. Eur J Dermatol. 2011;21:520-8.
3. Lee HE, Kim SJ, Im M, Kim CD, Seo YJ, Lee JH, Lee Y. Congenital lipedematous alopecia: adding to the differential diagnosis of congenital alopecia. Ann Dermatol. 2015;27:87-9.
4. Martín JM, Monteagudo C, Montesinos E, Guijarro J, Llombart B, Jordá E. Lipedematous scalp and lipedematous alopecia: a clinical and histologic analysis of 3 cases. J Am Acad Dermatol. 2005;52:152-6.
5. Chen E, Patel R, Pavlidakey P, Huang CC. Presentation, diagnosis, and management options of lipedematous alopecia. JAAD Case Rep. 2018;5:108-109.
6. González-Guerra E, Haro R, Angulo J, Del Carmen Fariña M, Martín L, Requena L. Lipedematous alopecia: an uncommon clinicopathologic variant of nonscarring but permanent alopecia. Int J Dermatol. 2008;47:605-9.
7. Hughes EC, Badri T. Folliculitis, Tufted Hair. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018-. 2018 Oct 27.
8. Cabrera R, Larrondo J, Whittle C, Castro A, Gosch M. Successful treatment of lipedematous alopecia using mycophenolate mofetil. Acta Derm Venereol. 2015;95:1011-2.

Hospital del Mar | Parc de Salut MAR Barcelona