Do you know this syndrome? *

Você conhece esta síndrome?

Renata Hubner Frainer[1]
Giselle Martins Pinto[3]
Luana Pizarro Meneghello[1]
Luciana Boff de Abreu[2]
André Vicente Esteves de Carvalho[4]

CASE REPORT

Female patient, 17 years old, white, complaining of thinning, brittle hair, and lack of hair growth (Figure 1). Such changes are reported to be happening since childhood and patient says she has never had her hair cut, also denying factors of aggravation or improvement of the problem. She mentions having a diagnosis of Stargardt's disease (progressive macular dystrophy) and makes continuous use of oral contraceptives and eye drops of carboxymethylcellulose.

The patient is part of a family of seven children of the same parents, and one of her brothers, a 30-year-old male, has thinning, brittle hair, and lack of hair growth and also has been diagnosed with progressive macular dystrophy.

Laboratory tests were performed, including blood count, thyroid function, ferritin, and VDRL, which were all within normal limits. Optical microscopy identified normal telogen hair and the pathology was consistent with congenital hypotrichosis (Figure 2).

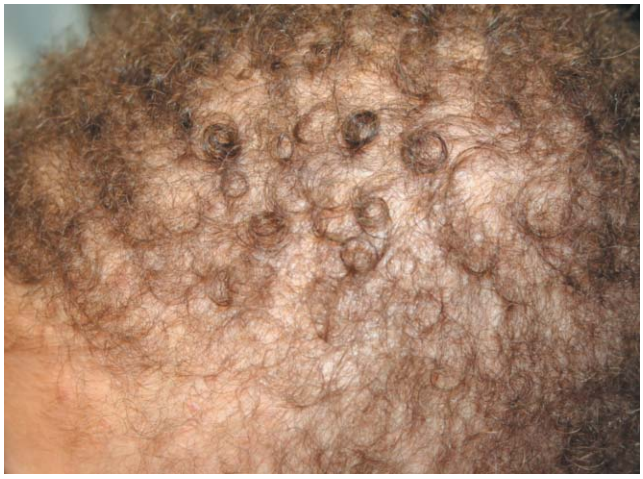

FIGURE 1: Diffuse capillary rarefaction with short, thin and fragile wires

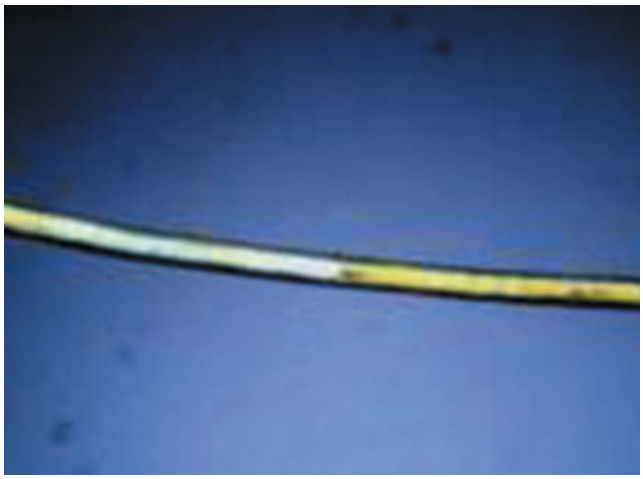

FIGURE 2: Optical microscopy shows normal telogen hairs

Received on 24.02.2012.
Approved by the Advisory Board and accepted for publication on 08.05.2012.
* Work performed at the Irmandade da Santa Casa de Misericórdia de Porto Alegre – Porto Alegre (RS), Brazil.
Financial Support: None.
Conflict of Interests: None.

[1] Specialist Physician in Internal Medicine. Resident/Trainee in Dermatology at the Irmandade da Santa Casa de Misericórdia de Porto Alegre – Porto Alegre (RS), Brazil.
[2] Physician – Resident in Internal Medicine at the Hospital Geral de Caxias do Sul (HGCS) – Caxias do Sul (RS), Brazil.
[3] Specialist Physician in Internal Medicine – Preceptor of the hair diseases outpatients clinic of the Irmandade da Santa Casa de Misericórdia de Porto Alegre – Porto Alegre (RS), Brazil.
[4] Master in pathology by the Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA) - Preceptor at the Dermatology Service of the Irmandade da Santa Casa de Misericórdia de Porto Alegre – Porto Alegre (RS), Brazil.

DISCUSSION

Congenital hypotrichosis and Stargardt's macular dystrophy are rare autosomal recessive disorders of unknown etiologies, characterized respectively by hair loss, macular degeneration, and precocious and progressive severe vision reduction.[1,2,3]

The defective gene in hypotrichosis with juvenile macular dystrophy is located on the chromosome 16q22.1. This chromosome has *CDH3* gene encoding the protein P-cadherin, expressed in the retinal pigment epithelium and hair follicles. The analysis of this mutation shows that all the families involved had homozygous deletion in the DNA region of the DNA 8 of the gene *CDH3*. These results established the molecular etiology of hypotrichosis associated with juvenile macular dystrophy and led for the first time to a cadherin molecule in the pathogenesis of such diseases.[1]

Stargardt's macular dystrophy affects one in 10.000 people and is usually inherited as an autosomal recessive disorder. It is characterized by progressive and severe reduction of central vision, typically in the first and second decades of life.[4,5] The retinal pigment epithelium and the photoreceptor layer from the macular region are the most affected sites.[3,6] The decrease in visual acuity often precedes the fundus changes and depends on the age of onset of the symptoms: the later the onset, the lower the probability of visual loss.[7,8]

The congenital hypotrichosis can be classified as focal or diffuse. The diffuse pattern may be associated with ichthyosis, basal cell carcinoma, epidermolysis bullosa, mental retardation, epilepsy, chromosomal abnormalities, bone abnormalities, ocular and ectodermal dysplasia, and in the latter, heredity as an important causal role.[6]

Freire-Maia has proposed a classification of ectodermal dysplasias which divides them into two groups. One of this are associated to ectodermal structural change, such as the retina.[7]

There are references that associate loose anagen hair syndrome with macular dystrophy, other ones correlating the hereditary hypotrichosis of Marie-Unna to juvenile macular degeneration and Ehlers-Danlos Syndrome.[8,9]

The congenital hypotrichosis associated with macular dystrophy is a rare condition with few reports in the literature. This case report highlights the importance of early diagnosis by physicians, mainly the specialists involved, since the complete treatment with reduction of macular involvement could prevent subsequent blindness. Therefore, hairy changes of any kind should alert the clinician to an ophthalmic evaluation. ❑

Abstract: Congenital hypotrichosis and Stargardt macular dystrophy are rare autosomal recessive disorder of unknown etiology respectively characterized by hair loss, macular degeneration and severe progressive vision reduction. There are few reports in the literature with this association. Studies show that the defective gene is on the chromosome 16q22.1 and involve cadherin molecule in the pathogenesis. Early recognition of these disorders often starts with hair changes and should alert the dermatologist for an eye examination thereby avoiding more severe ocular defect.
Keywords: Congenital abnormalities; Hypotrichosis; Vision disorders

Resumo: A hipotricose congênita e a distrofia macular de Stargardt são desordens autossômicas recessivas raras de etiologias desconhecidas, caracterizadas respectivamente pela perda de cabelos, degeneração macular e redução progressiva e grave da visão de forma precoce. Encontram-se pouquíssimos relatos na literatura com a associação de ambas. Há estudos que demonstram que o gene defeituoso dessas doenças encontra-se no cromossomo 16q22.1 e implicam a participação da molécula caderina na patogênese das mesmas. O reconhecimento precoce dessas desordens muitas vezes inicia por alterações capilares e deve alertar o dermatologista para uma análise oftalmológica para como forma de se evitar alterações oculares mais graves.
Palavras-chave: Anormalidades congênitas; Hipotricose; Transtornos da visão

REFERENCES

1. Sprecher E, Bergman R, Richard G, Lurie R, Shalev S, Petronius D, et al. Hypotrichosis with juvenile macular dystrophy is caused by a mutation in CDH3, enconding P-cadherin. Nature Genet. 2001;29:134-6.
2. Indelman M, Leibu R, Jammal A, Bergman R, Sprecher E. Molecular basis of hypotrichosis with juvenile macular dystrophy in two siblings. Br J Dermatol. 2005;153:635-8.
3. Gerth C, Andrassi-Darida M, Bock M, Preising MN, Weber BH, Lorenz B. Phenotypes of Stargardt macular dystrophy/fundus flavimaculatus patients with known ABCA4 mutations and evaluation of genotype-phenotype correlation. Graefes Arch Clin Exp Ophthalmol. 2002;240:628-38.
4. Wirtitsch MG, Ergun E, Hermann B, Unterhuber A, Stur M, Scholda C, et al.Ultrahigh resolution optical coherence tomography in macular dystrophy. Am J Ophthalmol. 2005;140:976-83.
5. Maia Júnior OO, Takahashi WY, Arantes TEF, Barreto RBP, Andrade Neto JL. Estudo macular na doença de Stargardt. Arq Bras Oftalmol. 2008;71:7-12.
6. de Berker D. Congenital hypotrichosis. Int J Dermatol. 1999;38 Suppl 1:25-33.
7. Sato MT, Brenner FM, Marzagão R, Sabbag F, Bordignon G, Fillus Neto J, et al. Síndrome dos cabelos anágenos frouxos associada á distrofia macular - Descrição de uma família. An Bras Dermatol. 2004:79:725-31.
8. Podjasek JO, Hand JL. Marie-Unna Hereditary Hypotrichosis:case report and review of the literature. Pediatr Dermatol. 2011:28:202-4.
9. Redler S, Kruse R, Eigelshoven S, Hanneken S, Refke M, Wen Y, et al. Marie Unna hereditary hypotrichosis: identification of a U2HR mutation in the family from the original 1925 report. J Am Acad Dermatol. 2011:64:e45-50.

MAILING ADDRESS:
Renata Hubner Frainer
Rua Professor Annes Dias, 295 - Centro
90020-090 Porto Alegre, RS.
E-mail: rehfrainer@yahoo.com.br

How to cite this article: Frainer RH, Abreu LB, Pinto GM, Carvalho AVE, Meneghello LP. Do you know this syndrome? Congenital hypotrichosis associated with macular dystrophy (Stargardt´s Disease). An Bras Dermatol. 2013;88(1):135-7.