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Case Report

Erythrasma Capitis and Diffuse Hair Loss with Patches and Eczema-a Rare but Underdiagnozed Entity?

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Introduction

Corynebacterium minutissimum is considered to belong to the normal flora of skin [1]. However, it can cause a skin disease erythrasma, especially in axillar area. Certain corynebacterium species are associated with skin infections [2,3], and pitted keratolysis.

There are only a few reports published for animals regarding the association of corynebacterium and alopecia in one Beagle dog [4], and in two horses [5,6]. However, there are no reports in the literature or in Textbooks of Dermatology on the association of corynebacterium with scalp hair loss in humans. Due to only a few patients seen in clinical practice, this association is likely rare, and might be possible that this condition is underdiagnozed.

Cases

Case 1: A healthy 16-year-old woman had been suffering from scalp dermatitis and diffuse hair loss for 2 months. Topical 1 mg/ml betamethason-17-valerate (Bemetson) solution and 20 mg/ml ketoconazol shampoo did not have any influence, and the condition worsened. Wide diffuse hair loss with small patches and eczema was seen clinically on the back (Figure 1a) and front (Figure 1b) of the head. Laboratory analyses, including total blood cell count, serum alanine amino transferase, C-reactive protein, thyroid stimulating hormone, and free thyroxin were normal, and syphilis serology was negative. Serum thyroid antimicrosomal antibodies and B12 vitamin were slightly elevated. A scalp skin biopsy and superficial fungus culture sample were taken (and later was found negative), and topical 0.1% hydrocortison-17-butyrate (Locoid) solution and oral itraconazol (Sporanox) 100 mg once a day were applied.

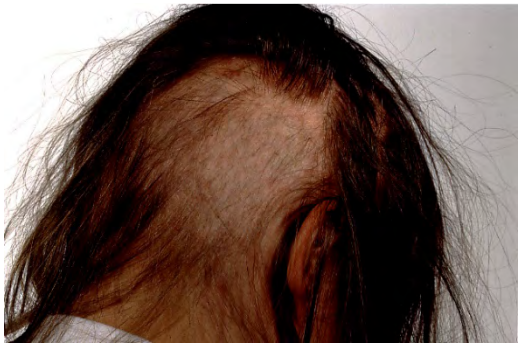

Figure 1a: Patient 1, a healthy 16-year-old woman suffering from scalp dermatitis and diffuse hair loss for 2 months, back of head.

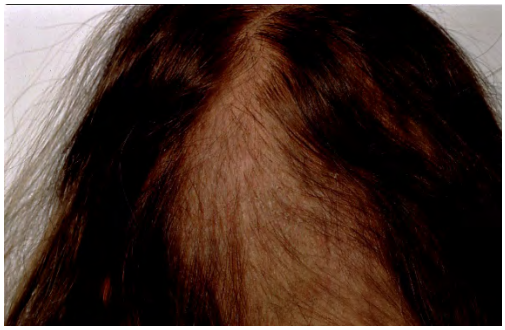

Figure 1b: Patient 1, Scalp dermatitis and diffuse hair loss for 2 months, front of head.

Two weeks later the scalp skin disease still deteriorated slightly. Histology revealed telogen stage follicles, and cystic-widened hair follicles containing corynebacteria-like mass that was also on the skin surface. In dermis, a slight lymphocyte-

dominant inflammation was seen.The patient case was taken to a clinicopathological meeting. A diagnosis of erythrasma capitis was suggested. By Wood illumination, numerous bright purple-red spots were seen with a density of at least 20-fold, as compared to 15 control persons with normal hair who had only very few bright purple-red spots. The treatment with erythromycin (Erasis) 400 mg tid was prescribed for 2 months.

At 1-month follow-up, eczema had disappeared, Wood-light positive bright purple-red spots were decreased by about 70%, and a slight diffuse redness was seen.Two months later, no eczema was observed, marked hair growth was seen on the sites of previous hair loss patches, and Wood-light positivity was at the level of control persons.

Three months later, a strong curly hair on the previous hair loss sites was seen (Figure 1c, d), and the Wood-light positivity was still at the level of control persons.

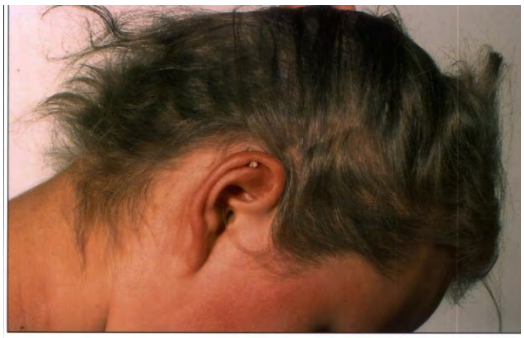

Figure 1c: Patient 1, after treatment with erythromycin hair regrow as curly shape 3 months later.

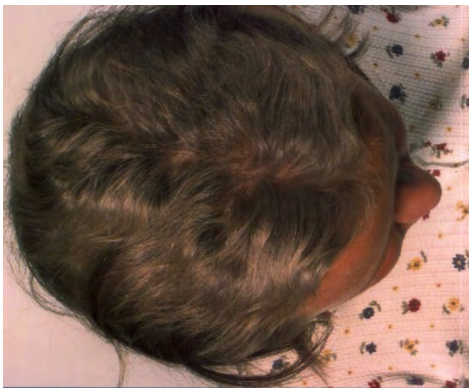

Figure 1d: Patient 1, after treatment with erythromycin hair regrow as curly shape 3 months later.

Case 2: A healthy 21-year-old woman developed, about 1,5 months before her pregnancy started, a slightly reddish and eczematous hair loss patch of about 4x5 cm on the top of scalp in a few weeks (Figure 2a). The Wood-light illumination revealed abundant bright purple-red positivity, whereas in sites with normal hair a few spots were detected. The patient did not want a skin biopsy to be taken. Erythromycin (Abboticin) 500 mg tid was prescribed, as well as topical 0.1% hydrocortison-17-butyrate cream (Locoid crelo).

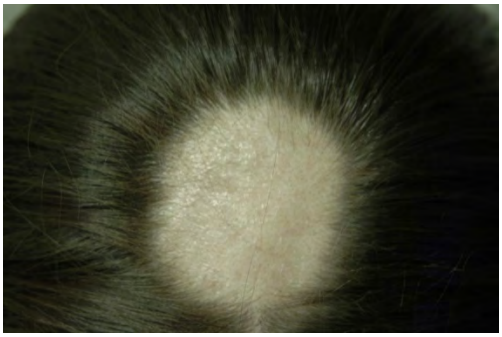

Figure 2a: Patient 2, a healthy 21-year-old woman developed, a slightly reddish and eczematous hair loss patch. At start of treatment with erythromycin.

One month later the eczematous features and Wood-light positivity had practically disappeared, and a new hair growth was detected (Figure 2b). The culture sample was positive for Corynebacterium minutissimum-species.

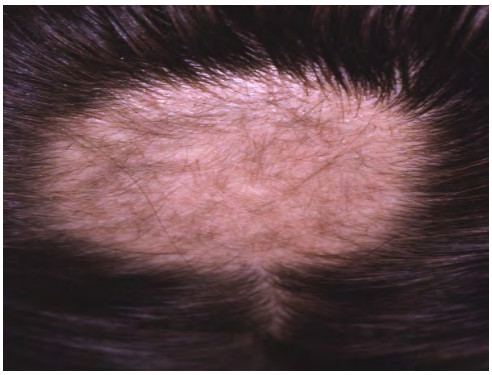

Figure 2b: Patient 2, 1 month later after start of treatment with erythromycin.

Two months later there was partial hair growth with about 2,5 cm long hairs, but also moderate Wood-light positivity was seen (Figure 2c). Topical 10 mg/ml clindamycin cream (Dalacin) was prescribed for 2 weeks.

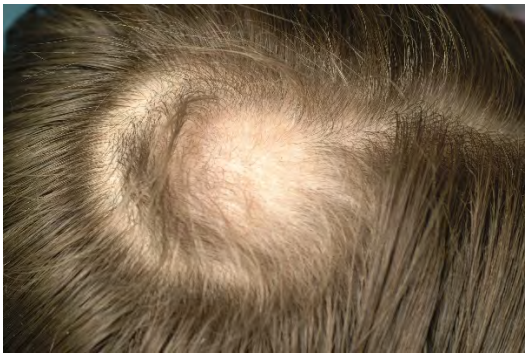

Figure 2c: Patient 2, 1 month later after start of treatment with erythromycin.

In the follow-up visit 3 months later, there was a thick, strong and 5-6 cm long hair growth in the hair loss site (Figure 2d), and no Wood-light positivity was seen.

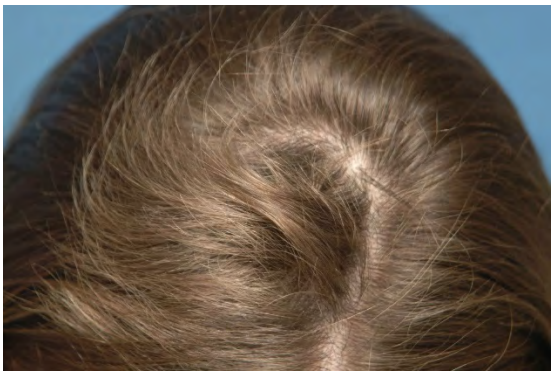

Figure 2d: Patient 2, 6 months later after start of treatment with erythromycin.

Discussion

Both female cases with diffuse and patchy hair loss for less than 2 months responded well to the oral erythromycin. It is speculative, how a long chronic inflammation might cause irreversible changes to hair follicles causing permanent hair loss. Due to only a few patients seen in clinical practice, the association between corynebacterium and diffuse hair loss is likely rare, though it is be possible that this condition is underdiagnozed. To confirm the relevance of association between corynebacterium and diffuse hair loss and eczema, additional studies and possibly more case studies are needed.

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