

Clinical case of alopecia areata

related with dental focal infection

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Abstract

Alopecia areata is an autoimmune disease with unclear etiopathogenesis. It is a non-scarring hair loss disorder. Besides scalp and body hair, the eyebrows, eyelashes, and nails can be affected. The disorder may be circumscribed, total (scalp hair loss), and universal (loss of all hairs). Atopy, autoimmune thyroid disease and vitiligo are most commonly associated. The article presents a case of alopecia areata as a result of dental focal infection. Alopecia areata is resolved by eliminating of the dental focal infection.

Keywords: alopecia areata, dental focal infection, endodontic retreatment.

Introduction

Alopecia areata (AA) is a chronic inflammatory disease that involves the hair follicle. Current evidence indicates that hair follicle inflammation in AA is caused by a T-cell-mediated autoimmune mechanism occurring in genetically predisposed individuals (1).

AA affects males and females equally. The most common site to be affected is the scalp. The face, eyebrows, eyelashes, beard, underarm hair and pubic hair may be affected and sometimes, even the entire body. AA requires combined therapy, involving topical or intralesional corticosteroids, immune therapy with diphenylcyclopropenone, and even psychotherapy. In some cases, treatment consists of simply eliminating the dental infectious process (1).

Alopecia areata is an autoimmune disorder that causes your hair to come out, often in clumps the size and shape of a quarter. The amount of hair loss is different in everyone. Some people lose it only in a few spots. Others lose a lot. Sometimes, hair grows back but falls out again later. In others, hair grows back for good. There are different types of this condition. Alopecia areata is most common in its main form, but there are other, more rare types:

- Alopecia areata totalis - lost all the hair on your head
- Alopecia areata universalis - is the loss of hair over entire body
- Diffuse alopecia areata is a sudden thinning of hair rather than lost patches
- Ophiasis alopecia areata causes hair loss in a band shape around the sides and back of head

Alopecia Symptoms

The main and often the only symptom of alopecia is hair loss. The patients may notice:

- Small bald patches on scalp or other parts of body
- Patches may get larger and grow together into a bald spot
- Hair grows back in one spot and falls out in another
- Lose a lot of hair over a short time
- More hair loss in cold weather
- Fingernails and toenails become red, brittle, and pitted

The bald patches of skin are smooth, with no rash or redness. But you may feel a tingling, itching, or burning sensation on your skin right before the hair falls out.

The presence of common immune mediators in the pathogenesis of both alopecia areata and dental infection could account for the dental origin of the hair loss. In this sense, patients with localized alopecia should be subjected to careful exploration of the oral cavity in search of possible dental infections (2).

Case description

The patient is a 24-year old man with loss of hair on the scalp and beard. He was referred from dermatologist to the Department of "Imaging and Oral Diagnostics", Faculty of dental medicine, Medical University-Sofia, to perform a consultation due to the presence of focal infection of dental origin for dental focal diagnostics in connection with alopecia areata (fig 1). The patient had no complaints from the oral cavity and oral mucosa. He was treated with "Revalid" and vit. B6 with no improvement of his condition.

He is a smoker with harmful habits – alcohol consumption and no more cigarettes then 11/daily. He has no family history of autoimmune disorders. The patient was healthy and did not take any medicines for alopecia areata before its detection.

Diagnostic protocole

The patient underwent a dental focal diagnostic protocol (according to M. Dencheva):

1. Direct medical history, including detailed clinical examination (with recording the dental status, palpation of the regional lymph nodes and percussion of the suspected teeth)
2. X-ray diagnostics – orthopantomography
3. Conductive methods – Dental pulpal testing; measurement of corrosive potential

4. Electro skin test of Gelen
5. Thermovision diagnostics with thermocamera Flir A310 in 6 aspects
6. Individual inquire

Results from the diagnostic procedures:

Three active dental foci – teeth 16, 46 and 45 were detected, based on the results from test of Gelen and the thermovision diagnostics.

The results from Dental pulp testing were the following:

tooth 17 = 10 μ A; tooth 15 = 7 μ A; tooth 24 = 8 μ A; tooth 25 = 9 μ A;

tooth 26 = 12 μ A; tooth 27 = 9 μ A; tooth 37- 8 μ A; tooth 36 – 8 μ A; tooth 47 - 8 μ A

The measurement of the corrosion potential (mV) showed normal values (-150 mV/tooth for amalgam restorations and non-precious alloys and total - up to -800 mV for all teeth).



Figure 1. Clinical signs of patient with AA

Recommendations for dental treatment

1. The first stage included periodontal treatment – professional dental clinical oral hygiene of the dentition (cleaning with ultrasound of supra- and subgingival calculus). This was followed by instructions concerning the methods and means for maintaining good personal oral hygiene.
2. This was followed by extraction of tooth 46 (Fig.2). Antibiotic (Augmentin – 2X1g.) was administered 1 day before, on the day of the extraction and on the following one.
3. The third stage included retreatment of teeth 16 and 45. Antibiotic (Augmentin) was prescribed as prophylactic measure during the endodontic treatment. Intake of Fungolon 100mg – 1tab./daily, and “Bio Gaia Prodentis” – 1tab./daily lozenges, for 3 months was prescribed additionally.

For both teeth the retreatment was performed in two visits. Removal of the old root canal filling was done on the first appointment. The working length was determined. Pro Glider files were used for the creation of

glide path, followed by Wave One Gold reciprocating files (Dentsply Sirona). Sodium hypochlorite was used as solution for irrigation. Activation of the hypochlorite solution with Endoactivator (Dentsply Maillefer) was performed. Calcium hydroxide was used as temporary dressing for two weeks. The temporary filling of the canals was removed on the second visit, and they were enlarged once again till a bigger file size. The canals were filled with taper matched single cones and bioceramic-based sealer (WellRoot ST – Vericom) (Fig. 3). Growth of hair on the scalp and beard were observed, following the retreatment procedures.

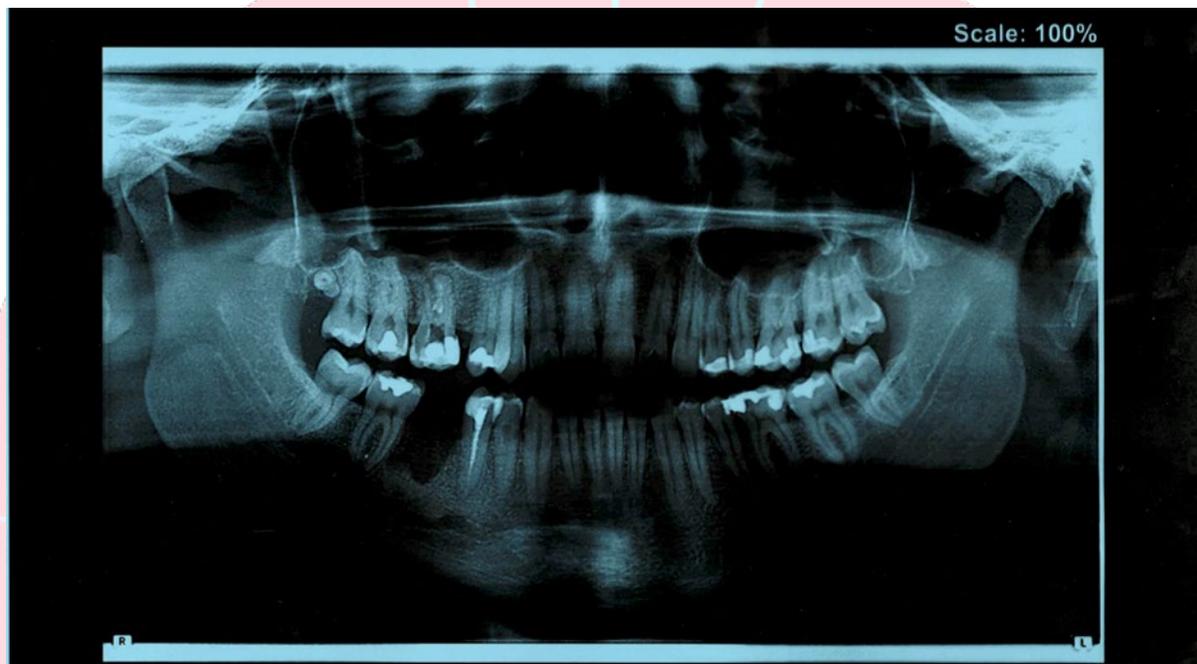


Fig. 2. Orthopantomography after the extraction of tooth 46 and before the endodontic treatment



Fig. 3. Retreated teeth 16 and 45

Discussion

Alopecia areata is a nonscarring hair loss disorder with a 2% lifetime risk. Most patients are below 30 years old. Clinical types include patchy AA, AA reticularis, diffuse AA, AA ophiasis, AA sisyphos, and perinevoid

AA. Besides scalp and body hair, the eyebrows, eyelashes and nails can be affected. The disorder may be circumscribed, total (scalp hair loss), and universal (loss of all hairs). Atopy, autoimmune thyroid disease, and vitiligo are more commonly associated. The course of the disease is unpredictable. However early, long-lasting, and severe cases have a less favorable prognosis. The clinical diagnosis is made by the aspect of hairless patches with a normal skin (3).

Jacquet (1902) suggested alopecia areata was initiated by sources of nerve irritation such as defective and diseased teeth. The hypothesis was confirmed (Decelle 1909) (4).

A Victor Samuel published article a case of AA of dental origin in a 9-year-old girl, which resolved after management of the dental problem (1).

José Antonio Gil Montoya and co-workers describe a case of alopecia areata with no apparent cause and that was effectively resolved by eliminating a focalized dental infection via endodontic treatment(2). The authors suggested that patients with localized alopecia should be subjected to careful exploration of the oral cavity in search of possible dental infections due to common immune mediators in the pathogenesis of both alopecia areata and dental infection

S Zivković aimed to describe a patient with alopecia areata, to analyse the role of dental focus and to point out the importance of endodontic treatment in the therapy of this dermatologic disease. In the aethiology of some rheumatic, cardiovascular, ophtalmologic and dermatologic the important role is attributed to dental focus, i.e. to periapical lesions as a very frequent endodontic pathosis (5) Similar clinical case was describe by James Grace(7).

Balcheva and Abadjiev presented a case of a 4.5-year old boy. Three months earlier his mother noticed an empty spot in his hair. They visited a dermatologist-the diagnosis was alopecia areata and the recommendation – to see the dentist and cure the teeth. The clinical examination revealed an unsuccessful root canal treatment of 61 – the tooth was open, there was a fistula. The X-ray also showed a picture of periodontitis. The tooth was extracted. Then a retainer with acrylic tooth was fixed to the adjacent teeth. This retainer is replaced every six months in order not to stop the growth of the bone. Two months after the manipulations the empty spots in the hair are almost disappeared. The bone growth is in normal range (7). Dinkova A. et co-workers presented a case of alopecia areata resulting from dental foci that was effectively resolved by eliminating a focalized dental infection via dental extraction (4).

Conclustion

The purpose of this article is to present a patient with alopecia with etiological factor of dental origin, which again draws attention to the combined approach in these patients and the need for a competent dental examination and appropriate dental treatment.

In patients with alopecia collaboration between dermatologist, dentist, endocrinologist and other medical doctors in the interdisciplinary approach of diagnosis and treatment is needed.

References

1. Samuel V, Muthu MS, Gurunathan D, et al. Alopecia areata of dental origin in a child. Indian journal of dental research: official publication of Indian Society for Dental Research 2012 23(5):665-669.
2. Montoya JA, Soriano D, Prat JJ. Alopecia areata of dental origin. Med Oral. 2002; 7: 303-308.
3. Finner A. Alopecia areata: Clinical presentation, diagnosis, and unusual cases. Dermatol Ther 2011;24(3):348-354.
4. Dinkova A, Kirova D, Gavasova G, et al. Case of alopecia areata originated from dental focus. Journal of IMAB - Annual Proceeding (Scientific Papers) 2014, vol. 20, issue 5
5. Zivković S. Endodontic treatment in the therapy of alopecia areata. Stomatol Glas Srb, 1990 Jun;37(3):299-305.
6. Grace J. Extensive alopecia areata of dental originevidence that isolated areas of alopecia may be due to ipsilateral foci of infection. Arch Derm Syphilol. 1942;45(2):349-352.
7. Balcheva M, Abadjiev M. A case of Alopecia areata, associated with a focus of dental origin. Journal of IMAB - Annual Proceeding (Scientific Papers) 2010; 15:(2), 73-74.

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*Journal of Medical
and Dental Practice*
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