

Alopecia areata: more than skin deep

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Dr Kirsty J. MacLean
BSc MB ChB
Foundation Year 2 Doctor

Dr Michael J. Tidman
MD FRCP (Ed) FRCP (Lond)
Consultant Dermatologist,
Department of Dermatology

Royal Infirmary of Edinburgh, Edinburgh, UK



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AUTHORS

Dr Kirsty J. MacLean
BSc MB ChB
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Dr Michael J. Tidman
MD FRCP (Ed) FRCP (Lond)
Consultant Dermatologist,
Department of Dermatology

Royal Infirmary of Edinburgh,
Edinburgh, UK



FIGURE 1
Alopecia sub-totalis
in a ten-year-old girl



ALOPECIA AREATA, FROM THE LATIN MEANING HAIR LOSS LIMITED TO A CIRCUMSCRIBED AREA,

is a chronic inflammatory non-scarring condition affecting the hair follicle that leads to hair loss ranging from small well defined patches to complete loss of all body hair.

The hair follicle is preserved, and in about 80% of affected individuals there is spontaneous regrowth within a year.¹ However, most patients experience more than one episode of hair loss.

Alopecia areata can present at any age, although 60% of patients develop their first episode of hair loss before the age of 20 years.² In the UK, it accounts

for around 2% of new patients attending dermatology clinics.²

RISK FACTORS

There are no racial or gender differences but alopecia areata is slightly more common in those with Down's syndrome.

There is a family history of the condition in 20% of cases indicative of a genetic basis. A positive family history is considered to be prognostic of troublesome alopecia areata, as are onset in childhood, ophiasis (involvement of the scalp hair margins), nail changes and concurrent atopic disease.¹ However, the severity of hair loss at presentation appears to be the strongest predictor of long-term outcome.¹

What are the risk factors?

What are the treatment approaches?

Which patients should be referred?

There is an association with autoimmune diseases, including vitiligo, diabetes, pernicious anaemia and thyroid disease, suggesting that alopecia areata itself is an autoimmune disease, although this is still unproven.¹

DIAGNOSIS

Alopecia areata normally presents with hair loss in discrete, well circumscribed patches, which may be small (< 1 cm) to very large, see figure 1, above. Any hair-bearing region may be affected, but the scalp is the most common site. Hair loss may rapidly extend to involve the entire scalp, when it is known as alopecia totalis. Rarely, there may be complete loss of all body hair termed alopecia »

SPECIAL REPORT

ALOPECIA AREATA

universalis. Occasionally, alopecia areata presents as diffuse hair loss, lacking the well demarcated appearance of typical alopecia areata. The tendency for hair loss in alopecia areata to be confined to pigmented hair, leaving depigmented hair unaffected, is the reason behind the occasional observation of an adult 'going grey overnight'.

The skin colour in lesions of alopecia areata is usually normal although it may sometimes be slightly erythematous, and the affected skin is silky smooth because of the absence of hair shafts. Gentle traction on the normal looking hairs immediately adjacent to areas of alopecia areata frequently results in clumps of hair being easily plucked (a positive pull test).

Close examination of the periphery of a lesion with a magnifying glass will often reveal short hairs which taper in diameter from their tip to the point at which they emerge from the skin, see figure 2, below. These 'exclamation mark' hairs are diagnostic of alopecia areata.

Regrowth commonly starts in the

centre of a patch of alopecia, and the new hair often initially lacks pigment, see figure 3, opposite. In children, repigmentation usually occurs, but this cannot be guaranteed in adults. Individual patches of alopecia areata appear and resolve at different times.

'A positive family history is considered to be prognostic of troublesome alopecia areata'

Involvement of the eyebrows, eyelashes and nails may be helpful diagnostic clues. Pitting and longitudinal ridging of the nails occur in around 10% of cases.¹

The differential diagnoses of alopecia areata are listed in table 1, opposite.

INVESTIGATIONS

Alopecia areata is essentially a clinical diagnosis, and confirmatory investigations are rarely necessary. However, in cases of diagnostic uncertainty, a skin biopsy, mycological examination or serological tests for syphilis or systemic lupus erythematosus may be indicated. In view of the association with autoimmune thyroid disease and pernicious anaemia, it is reasonable to explore the possibility of a predisposition to these disorders by measuring levels of circulating antibodies to thyroid and intrinsic factor.

TREATMENT

While alopecia areata is not detrimental to physical health, and although the reaction to alopecia will vary between individuals, it may have a very significant impact on psychological wellbeing in both children and adults. It is important to address the distress that this condition may cause.

Anxiety and depression, leading to social and work-related problems, are common in alopecia areata,¹ and may require specific treatment.

Patient support groups can assist individuals in coping with their altered body image, but it is occasionally necessary to consider supportive help from a clinical psychologist.

'Involvement of the eyebrows, eyelashes and nails may be helpful diagnostic clues'

The high rate of spontaneous remission in alopecia areata (excluding the totalis and universalis forms which have an unpredictable but generally poor prognosis for full recovery) impedes assessment of the efficacy of treatments, and thus the evidence base is thin.

The potential adverse effects of systemic immunosuppressive agents, such as glucocorticoids, ciclosporin and methotrexate, make it difficult to justify their use for a condition that does not affect physical health.

Furthermore, none of the available therapeutic options has been shown to alter the long-term outcome of alopecia areata.¹

FIGURE 2
A patch of alopecia areata in a 5-year-old girl demonstrating 'exclamation mark' hairs



For those with alopecia areata of a mild or moderate degree who are not suffering psychologically, no treatment may be the best option in many cases. Supplying the patient with information about the condition may help in shared decision making, see Useful information box, p32.

Topical corticosteroids

Very potent topical corticosteroids are widely prescribed and considered reasonably safe but there is no convincing evidence of their efficacy. They can promote hair regrowth in some patients, however there are no data on long-term benefit.

It is reasonable to prescribe 0.05% clobetasol propionate, as a foam, shampoo or scalp application, to the affected scalp twice daily for a period of 12 weeks,¹ while monitoring for signs of cutaneous atrophy. Folliculitis is a common side effect.

Intralesional corticosteroid injections

Intralesional triamcinolone acetonide can be quite effective in stimulating hair regrowth, confined to the areas that have been injected, although the benefits tend to be short lived, lasting only a few months.

It is a useful technique for small patches of hair loss and for sites such as the eyebrows, but is not appropriate for extensive or rapidly progressing alopecia areata and is not generally

suitable for children. Side effects include skin atrophy at the injection site.

Systemic glucocorticoids

Oral or pulsed glucocorticoid therapy will produce some regrowth of hair in some patients, but the risk-benefit ratio is not considered favourable.¹

Topical minoxidil

There are few data to suggest that topical minoxidil produces a

cosmetically acceptable degree of hair regrowth in alopecia areata. Nonetheless, a trial of minoxidil lotion is a reasonable and safe therapeutic option.¹

Calcineurin inhibitors

While there is evidence that ciclosporin does stimulate hair regrowth in some patients with alopecia areata, topical tacrolimus does not appear to be effective.¹ »

Table 1

Differential diagnoses

Trichotillomania	This is compulsive hair plucking, and is easily distinguished from alopecia areata by a very characteristic prickly feel to affected areas, caused by broken hairs. Alopecia areata and trichotillomania occasionally coexist
Tinea capitis	Fungal scalp infection results in patches of hair loss, often with broken hairs, scaling and itch
Scarring alopecia	In the early stages, scarring alopecia of various aetiologies can resemble alopecia areata
Telogen effluvium	This is a physiological condition caused by synchronisation of the hair cycles that results in diffuse hair loss in the telogen phase. It may be difficult to differentiate from the diffuse type of alopecia areata
Systemic lupus erythematosus (SLE) and secondary syphilis	SLE and secondary syphilis may result in patchy hair loss

FIGURE 3

Alopecia areata in an ophiatric distribution in a 55-year-old woman showing regrowth of depigmented hair



FIGURE 4

Wispy depigmented regrowth of hair following application of dithranol to the scalp of an 11-year-old boy with alopecia totalis



key points

SELECTED BY

Dr Peter Saul

GP, Wrexham and Associate GP Dean for North Wales

Alopecia areata is a chronic inflammatory non-scarring condition affecting the hair follicle that leads to hair loss ranging from small well defined patches to complete loss of all body hair. In about 80% of affected individuals there is spontaneous regrowth within a year. It can present at any age, although 60% of patients develop their first episode of hair loss before the age of 20 years.

There is a family history of alopecia areata in 20% of cases indicative of a genetic basis. A positive family history is considered to be prognostic of troublesome alopecia areata, as are onset in childhood, ophiasis (involvement of the scalp hair margins), nail changes and concurrent atopic disease. However, the severity of hair loss at presentation appears to be the strongest predictor of long-term outcome. There is an association with autoimmune diseases, including vitiligo, diabetes, pernicious anaemia and thyroid disease, suggesting that alopecia areata itself is an autoimmune disease, although this is still unproven.

Alopecia areata normally presents with hair loss in discrete, well circumscribed patches, which may be small (<1 cm) to very large. There is a tendency for hair loss in alopecia areata to be confined to pigmented hair, leaving depigmented hair unaffected. Close examination of the periphery of a lesion with a magnifying glass will often reveal short hairs which taper in diameter from their tip to the point at which they emerge from the skin. These 'exclamation mark' hairs are diagnostic of alopecia areata.

Differential diagnoses include trichotillomania, tinea capitis, scarring alopecia, telogen effluvium and conditions such as systemic lupus erythematosus and secondary syphilis. It is essentially a clinical diagnosis and confirmatory investigations are rarely necessary. While alopecia areata is not detrimental to physical health, and although the reaction to alopecia will vary between individuals, it may have a very significant impact on psychological wellbeing. Anxiety and depression, leading to social and work-related problems, are common and may require specific treatment. Patient support groups can assist individuals in coping with their altered body image, but referral to a clinical psychologist may occasionally be needed.

None of the available therapeutic options has been shown to alter the long-term outcome. Very potent topical corticosteroids are considered reasonably safe but there is no convincing evidence of their efficacy. They can promote hair regrowth in some patients, however there are no data on long-term benefits. Intralesional triamcinolone is useful for small patches of hair loss and for sites such as the eyebrows but is not appropriate for extensive or rapidly progressing alopecia areata and is not generally suitable for children.

Individuals with alopecia areata should be referred for dermatological advice if there is diagnostic uncertainty, they have extensive hair loss, they are suffering severe psychological distress or they would like a wig.

Dithranol

Dithranol, applied sufficiently frequently and in a high enough concentration to produce an irritant reaction, will occasionally result in hair regrowth, although not often to a cosmetically acceptable degree, see figure 4, p31. Staining of skin and hair limits its use in fair-haired individuals.¹

Photochemotherapy

PUVA (psoralen and ultraviolet A) therapy may be helpful, but response rates appear to be low and relapse is common.¹

Contact immunotherapy

Contact immunotherapy is the best documented form of treatment for alopecia areata. It involves sensitising the individual to an unlicensed contact allergen, such as diphenylpicrylhydrazine, and then continuing to apply it in a weak concentration, usually at weekly intervals, to the area of hair loss in order to maintain a mild dermatitis reaction.

'It is important to address the distress that this condition may cause'

As with all other treatments for alopecia areata, the response is unpredictable, producing cosmetically satisfactory hair regrowth in less than 50% of patients,¹ and relapse is common.

Furthermore, the technique is not widely available, involves frequent hospital visits and may cause severe dermatitis, lymphadenopathy and rarely urticaria and pigmentation changes.

Wigs and prostheses

Individuals with widespread alopecia areata are usually eligible for prescribed monofilament acrylic wigs. Hairpieces, false eyelashes and eyebrows, hair extensions, semipermanent make-up and tattooing can all be effective in disguising hair loss in alopecia areata.

REFERRAL

Individuals with alopecia areata should be referred for dermatological advice in the following situations:

- diagnostic uncertainty
- extensive hair loss
- severe psychological distress
- the patient would like a wig

CONCLUSION

Alopecia areata is a common and frequently distressing disorder, with the potential for causing considerable psychosocial debility.

It is difficult to treat, and, in the case of those individuals for whom treatment is considered appropriate, there is a paucity of evidence relating to the effectiveness of different therapies.

Despite its tendency to spontaneous remission and the fact that it does not impact on physical health, alopecia areata fully justifies further study of its cause and optimal management.

REFERENCES

- 1 Messenger AG, McKillop J, Farrant P et al. British Association of Dermatologists' guidelines for the management of alopecia areata 2012. *Br J Dermatol* 2012;166(5):916–926
- 2 Delamere FM, Sladden MJ, Dobbins HM, Leonardi-Bee J. Interventions for alopecia areata. *Cochrane Database Syst Rev* 2008.Issue 2. Art No. CD004413 www.thecochranelibrary.com

Useful information

British Association of Dermatologists
Patient information leaflets
Alopecia areata
www.bad.org.uk/site/795/default.aspx

Intralesional corticosteroid therapy
www.bad.org.uk/site/831/Default.aspx

British Skin Foundation
www.britishskinfoundation.org.uk

Support groups
Alopecia Awareness
www.alopecia-awareness.org.uk

Alopecia Help & Advice (Scotland)
www.alopeciascotland.co.uk

Alopecia UK
www.alopeciaonline.org.uk

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