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Dithranol Therapy for Extensive Alopecia Areata

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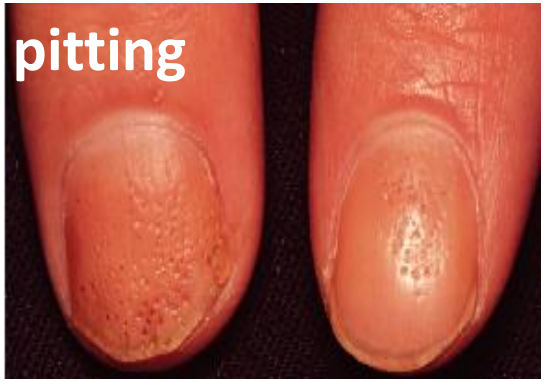
British Association of Dermatologists 97th Annual Meeting

Alopecia Areata

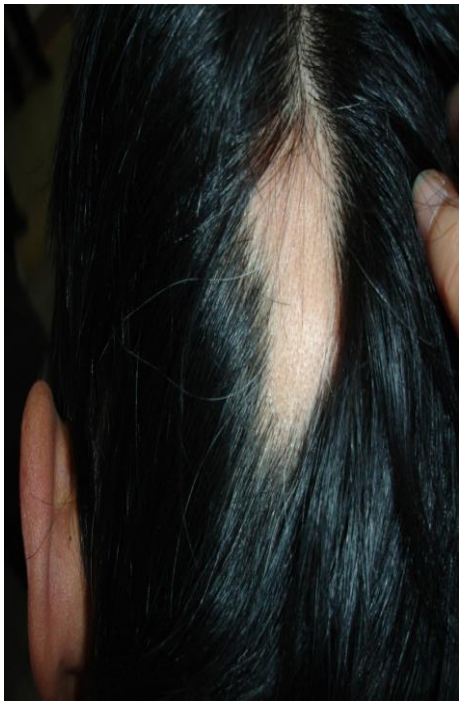
- 2% new dermatology referrals in UK
- Sudden-onset patchy alopecia without any signs of skin inflammation or scarring
- Exclamation-mark hairs
- 10% nail changes


Exclamation-mark hair

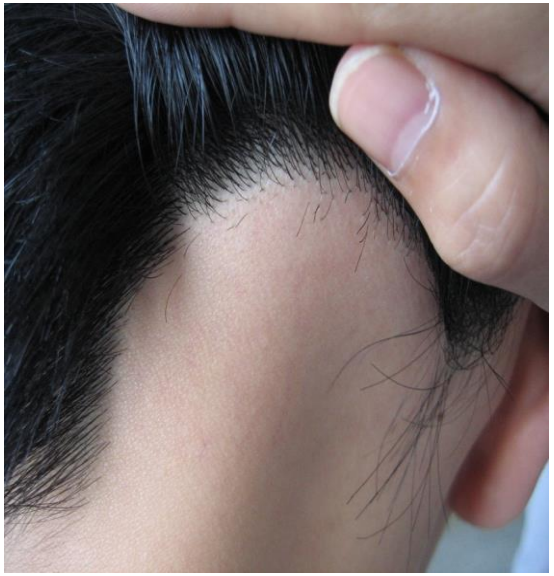


Alopecia Areata

Patchy AA



Ophiasis



Alopecia totalis

(From Harries et al. BMJ 2010; 341: ISSN 0959-8154)

GUIDELINES

BJD
British Journal of Dermatology

British Association of Dermatologists' guidelines for the management of alopecia areata 2012

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Extensive patchy hair loss

- Contact immunotherapy (strength of recommendation C)
- Wig/hairpiece (strength of recommendation D)

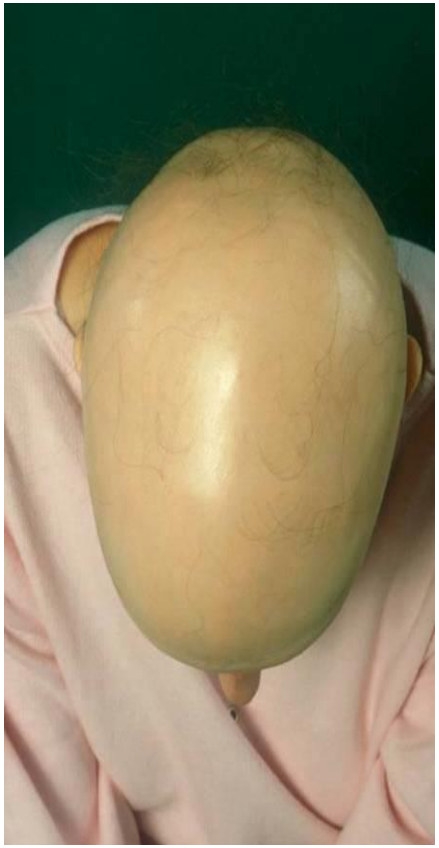
Alopecia totalis/universalis

- Contact immunotherapy (strength of recommendation C)
- Wig (strength of recommendation D)

Treatment Options >50% Scalp

- **Topical immunotherapy**
  - 17% regrowth AT /AU
  - 60% regrowth with 75-99% loss
  - 88% regrowth with 50-74% loss
  - 100% in <50% loss

  (Wiseman et al. Arch Dermatol 2001)



(Harries et al. BMJ 2010; 341: ISSN 0959-8154)

Treatment Options >50% Scalp

- Alternatives
  - Systemic corticosteroids
  - Systemic immunosuppressants
  - Topical steroids
  - Topical Dithranol
  - Topical Minoxidil
  - Wig

Short-Contact Dithranol (Anthralin)

- 0.5 - 1% Dithrocream® applied daily to scalp
  - Short contact (20 mins – 1 hour)
  - Low grade irritant reaction
  - Safe in children & pregnancy
  - Home treatment

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Existing evidence for Dithranol

- (1) Schmoeckel et al, 1979[1]
  - 18/24 (75%) with 'moderate' & 2/8 (25%) with alopecia totalis had 'cosmetically good' outcome after unspecified period of treatment
  - No objective data
- (2) Nelson et al, 1985[2]
  - No improvement after 16 weeks in any of 11 pts treated with OD or BD 0.1-0.5% dithranol
- (3) Fiedler-Weiss et al, 1987[3]
  - 17/68 (25%) with 'severe AA' attained 'cosmetically significant' regrowth
  - No objective outcome data
- (4) Ozdemir et al, 2017[4]
  - 21/30 children aged 7-17 years attained 50% reduction in SALT score in treated half of scalp after 12 months' daily dithranol
  - No attrition!

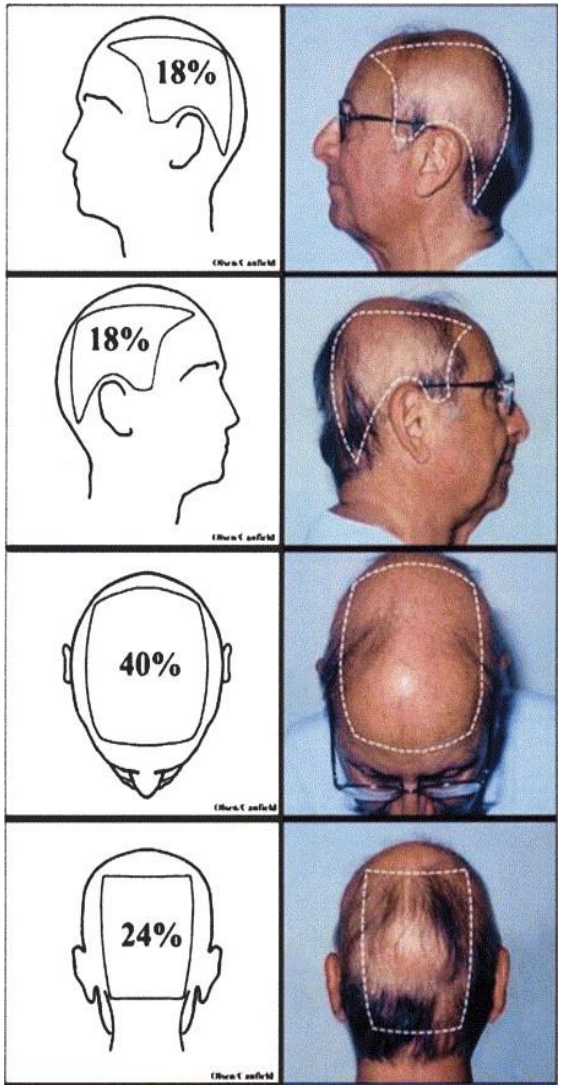
Rationale

- Lack of objective outcome data using modern scoring-systems for simple, readily-available intervention

Methods

- Retrospective analysis:
  - All patients treated with topical dithranol Aug 2011 – Apr 2016 identified
  - Data extracted from all cases w/ at least 1 f/u visit
- Data extracted:
  - Baseline & f/u SALT scores
  - Treatment duration
  - Reason for discontinuation
  - Self-reported cosmetic satisfaction

SALT Scoring



- SALT subclasses:
  - S_1 <25% hair loss
  - S_2 25-49% loss
  - S_3 50-74% loss
  - S_4 >75%

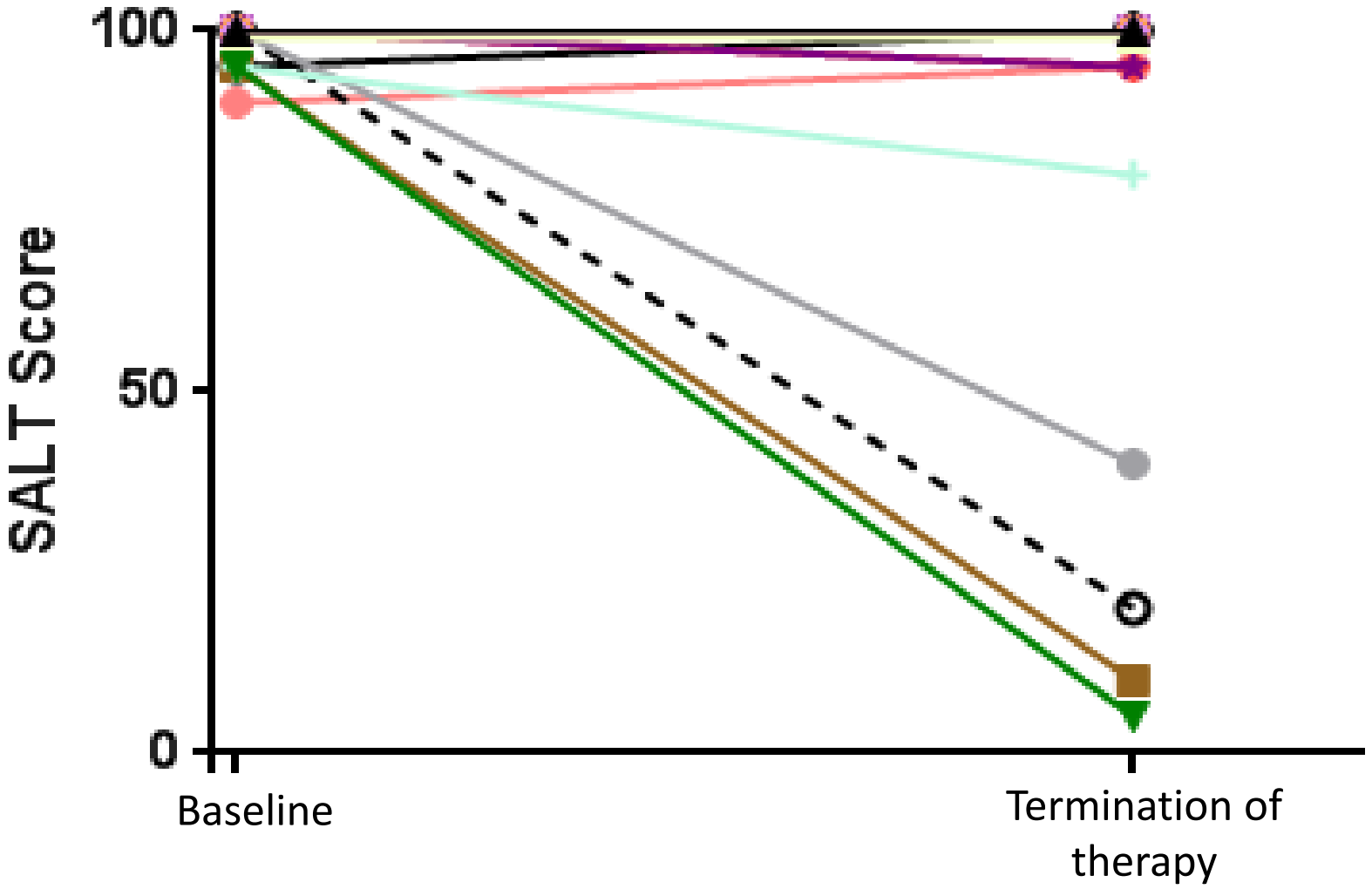
(Olsen et al. JAAD, 2004)

Baseline Characteristics*

No. pts		**28**
Gender		
	Male	**7**
	Female	**21**
Median age (years)		**26 years (range 9-66)**
Concomitant DCP		**1**
SALT	*S1*	**4**
scores	*S2*	**2**
	S3	**3**
	S4	**19**

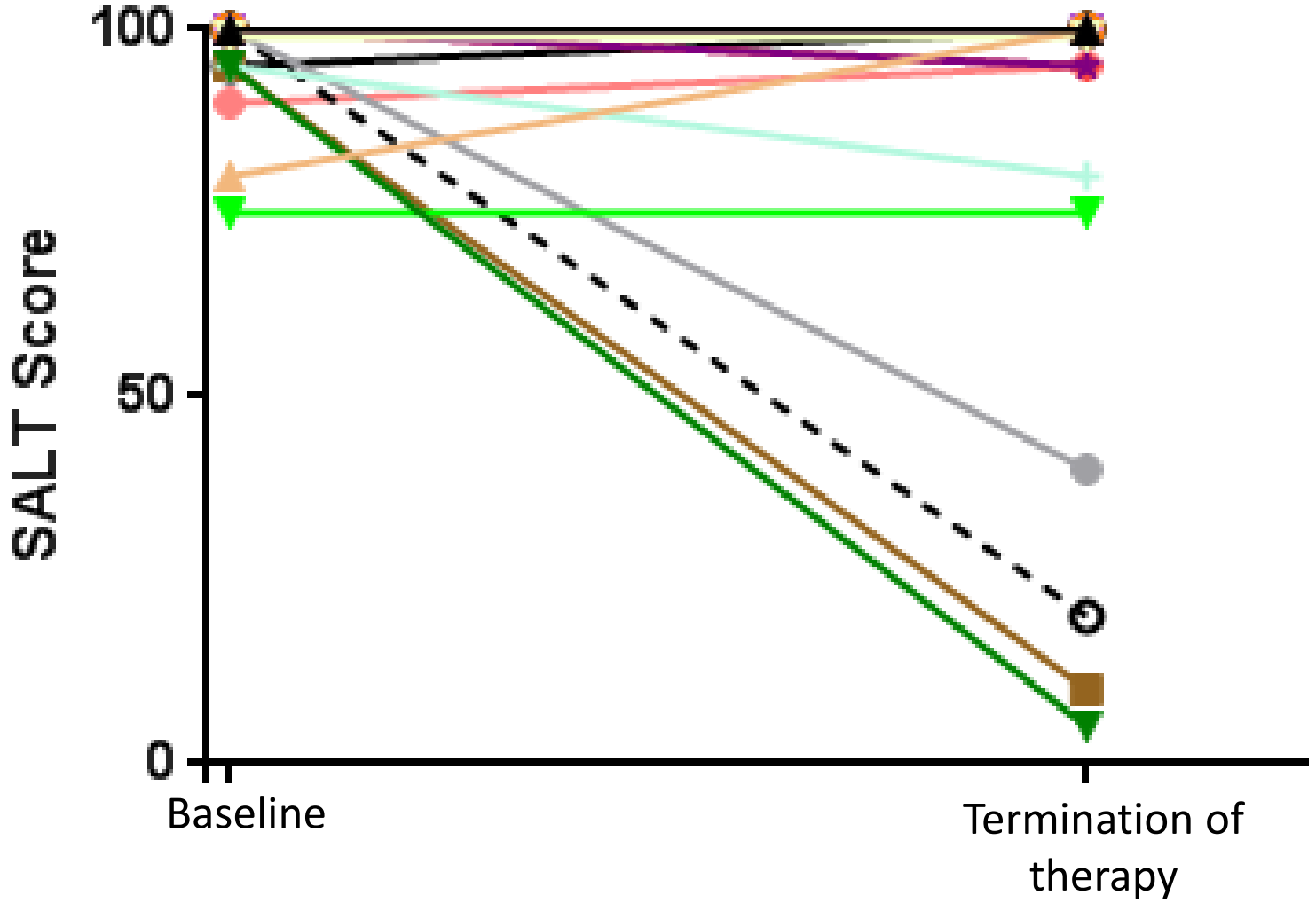
*Patients where baseline SALT scores available at baseline and termination

Response to Treatment: AT



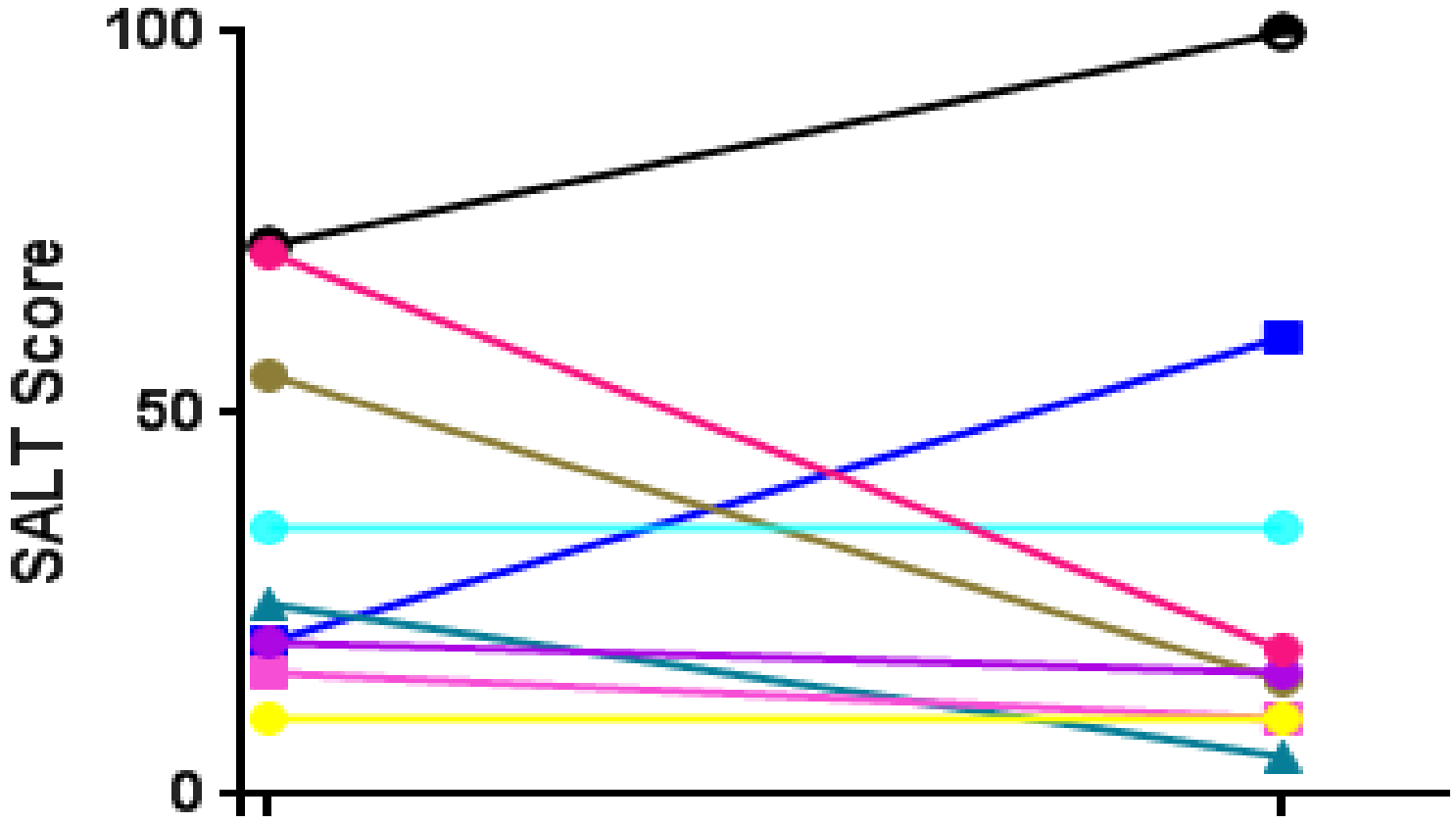
n = 17

Response to Treatment: baseline SALT ≥75



n = 19

Response to Treatment: baseline SALT <75



n = 9

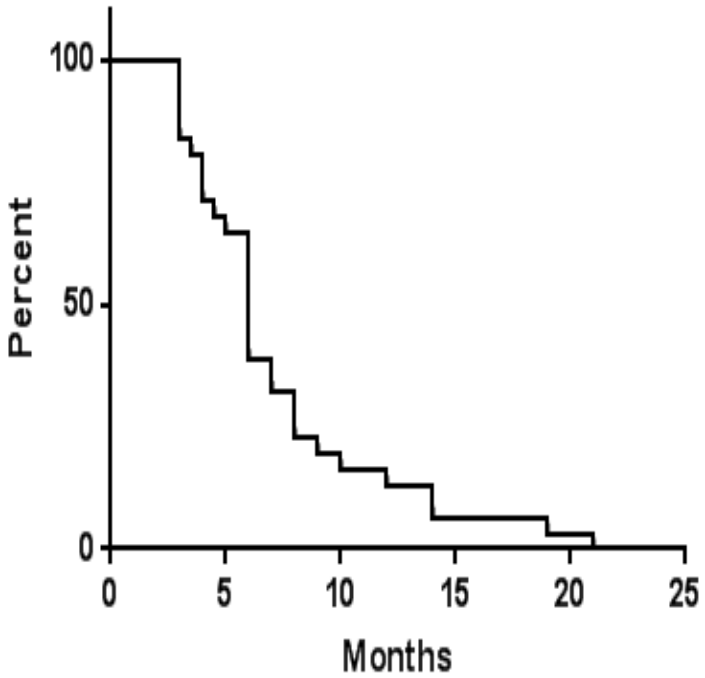
Summary

- Alopecia totalis/subtotal AT:
  - 24% (4/17) attained substantial improvement, with 12% (2/17) attaining near complete regrowth
- All cases:
  - 25% (7/28) attained substantial regrowth (SALT improvement by at least 1 subcategory)
  - 18% (5/28) attained very substantial regrowth (SALT improvement by at least 2 subcategories)
- N.b. Substantial variability in responses to treatment:
  - SD in change between pre- & post-treatment SALT scores = 32.5

Results – subjective cosmetic satisfaction

- Self-reported ‘cosmetic satisfaction’ at termination of therapy:
    - Yes – 23% (9/39)
    - No - 77% (30/39)

Results – treatment longevity



- Median treatment duration 22.5 weeks (range 10-84 weeks)

- Reasons for discontinuation:
  - Switch to topical DCP when it became available within our centre
  - Inefficacy/switch to alternative rx
  - Intolerable s/es
  - Attained regrowth
  - Unknown

Conclusions

- Treatment option for AA of any severity, although most suited as alternative to DPC for extensive disease
- Comparable response rates to topical immunotherapy with DPC
- First study reporting treatment outcomes in patients of all ages using objective scoring system
- **Next steps**
  - Randomised controlled trial
  - Comparative trial with topical immunotherapy

References

1) Schmoeckel C, Weissmann I, Plewig G et al. Treatment of alopecia areata by anthralin-induced dermatitis. Arch Dermatol 1979; 115:1254–5

2) Nelson DA, Spielvogel RL. Anthralin therapy for alopecia areata. Int J Dermatol 1985; 24:606–7.

3) Fiedler-Weiss VC, Buys CM. Evaluation of anthralin in the treatment of alopecia areata. Arch Dermatol 1987; 123:1491–3.

4) Ozedenir M, Balevi A. Bilateral Half-Head Comparison of 1% Anthralin Ointment in Children with Alopecia Areata. *Pediatric Dermatology* 2017; 34: 128-132.