

The SickKids logo, featuring the word "SickKids" in a blue, sans-serif font.

THE HOSPITAL FOR
SICK CHILDREN



UNIVERSITY
of TORONTO

Progress in Alopecia Areata: Evolving Treatments and Patient- Centered Perspectives

JUNE 19 2025

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Conflict of Interest Declaration

I, Cathryn Sibbald declare that in the past 2 years:

I have received direct financial payments from the following companies:

Abbvie, Amgen, Leo Pharma, Incyte, Novartis, Pfizer, Sanofi, Sun Pharma, UCB

I have been a member of an advisory board or equivalent with the following companies:

Arcutis, Eli Lilly, Leo Pharma, Incyte, Pfizer, Sanofi, Sun Pharma, UCB

I have participated in a clinical trial for the following companies:

Amgen, BMS, Abbvie, Pfizer,

Learning Objectives

1. Describe the psychosocial impact of AA and its relevance to patient care
2. Summarize evidence for currently available treatments in AA
3. Outline emerging therapeutic targets under investigation for AA

OUTLINE

- 1. Quality of Life**
- 2. Current treatments of interest**
- 3. Treatments being studied**

AA is associated with significant Burden of Disease

Stigma

Costs of wigs/
accessories/microblading

Absenteeism (work/school)

Costs of treatments

Mood disorders

Side effects
of treatments

Time spent at
appointments

Costs/time of monitoring of treatments



Canadian Survey

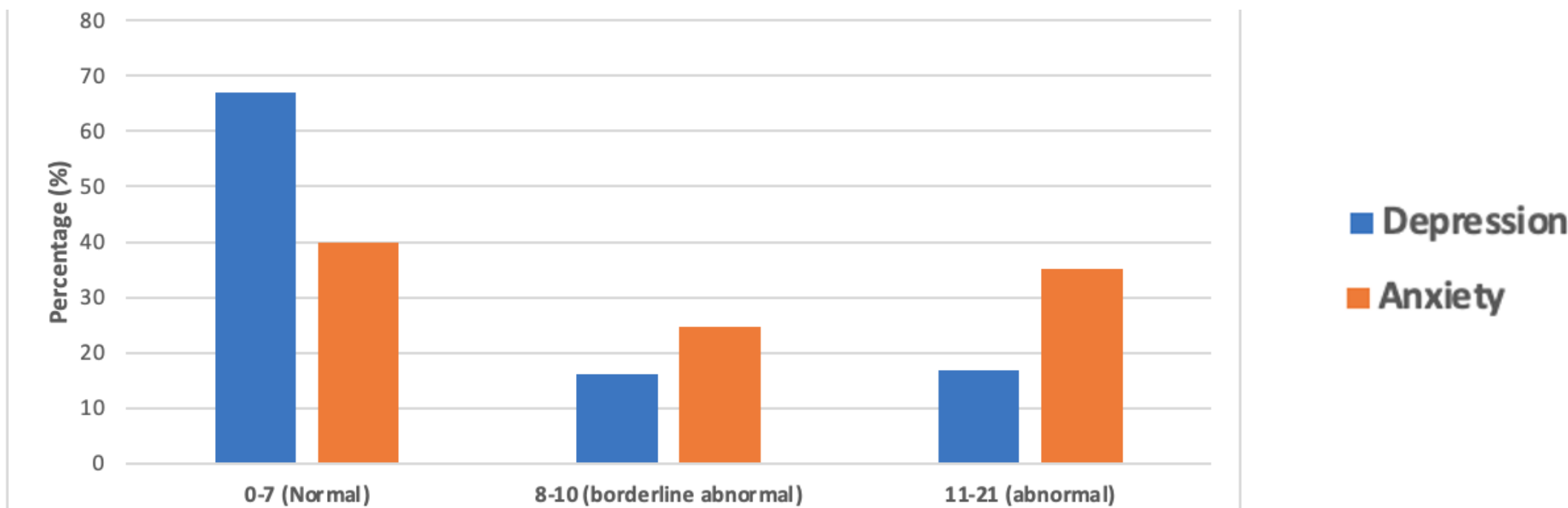
	Age<18y (n=14)	Age 18y+ (n=115)
Sex, n/N (%)		
Male	1/14 (7.14)	44.2 (15.6)
Female	13/14 (92.86)	43 (18-94)
Age, years		
Mean, (SD)	13.1 (3.6)	22(25)
Median, (Range)	14.5 (6-17)	22 (25)
Age grouping, years, % (n)		17 (20)
5-11	28.57 (4)	22 (25)
12-17	71.43 (10)	17 (20)
Alopecia Areata Subtype, % (n)		
Scalp only	50 (7)	37.39 (43)
Alopecia Totalis	14.29 (2)	14.78 (17)
Alopecia Universalis	35.71 (5)	52.17 (60)

Audience Question 1

What do you think was the most common abnormal mental health concern?

1. ADHD
2. Depression
3. Anxiety
4. Adjustment disorder

More respondents with Anxiety vs Depression

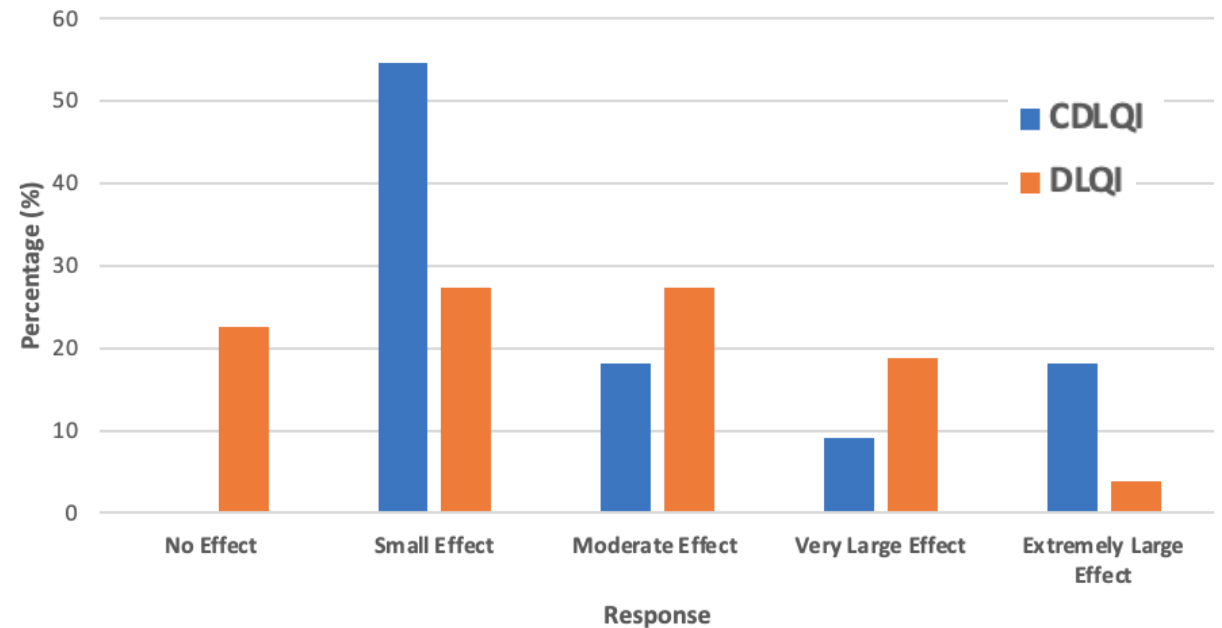


Hospital Anxiety and Depression Scale

Both the Anxiety and Depression scales have a total possible score of 21 from 7 questions.
Results are categorized based on total score: normal (0-7), borderline abnormal (8-10), abnormal (11-21)

Significant Impact on Quality of Life

- 95% felt uncomfortable or self-conscious about their appearance
- Avoidance of social events:
 - Pediatric: 61.5% (n=8)
 - Adult: 68.2% (n=75)
- Constant worry about new loss:
 - Pediatric: 61.5% (n=8)
 - Adult: 68.2% (n=75)



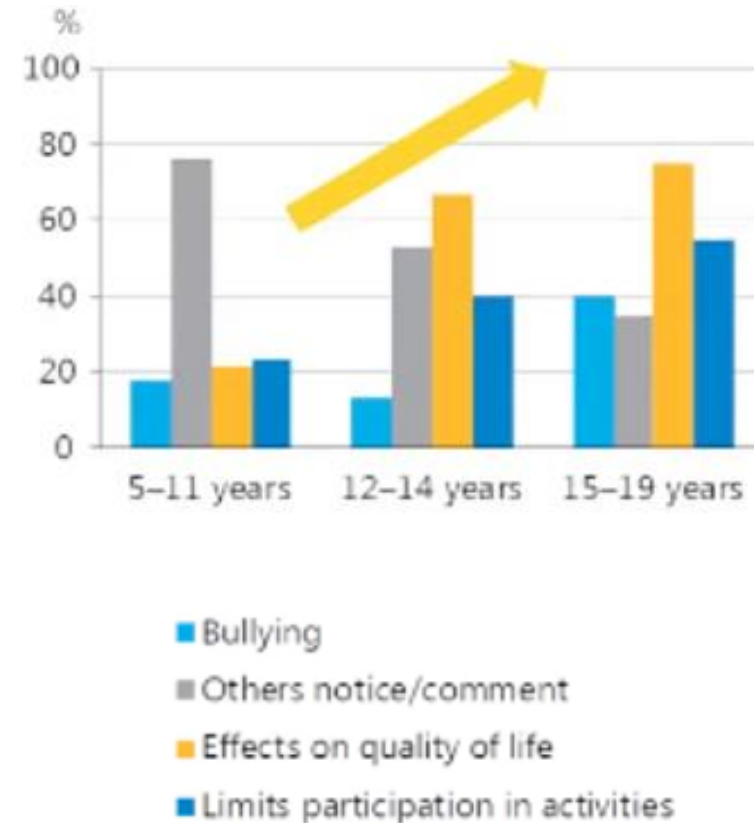
DLQI: Dermatology Life Quality Index

CDLQI: Children's Dermatology Life Quality Index

Score out of 30: no effect (0-1), small effect (2-6), moderate effect (7-12), very large effect (13-18), and extremely large effect (19-30)

Bullying also significant, especially in teens

- History of Bullying/teasing:
 - 46% of responders >18yrs old
 - **78% of adolescent 12-17yrs old**
 - 33% of children 5-11 yrs old
- 78% of adolescents reported that schools did not explain alopecia to classmates



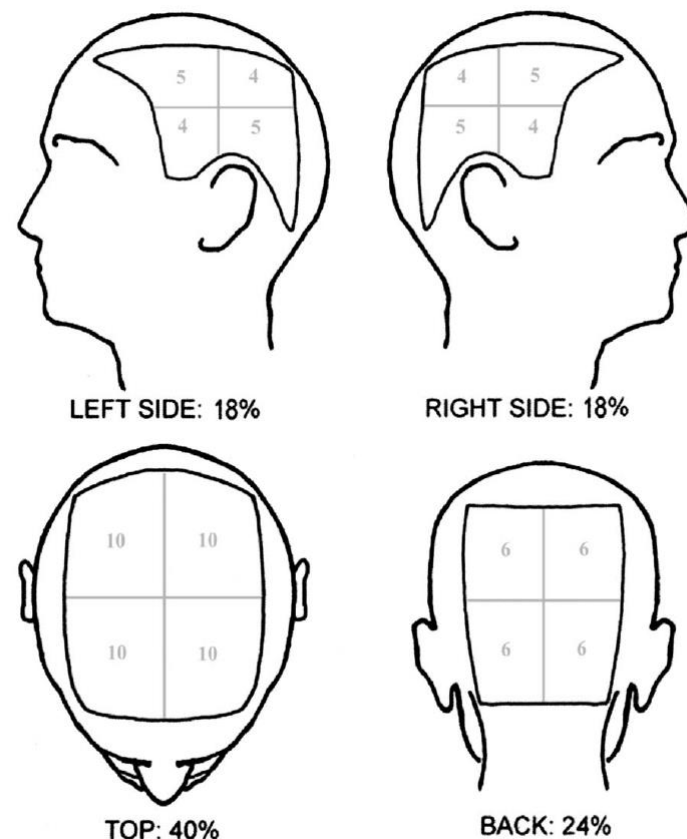
Severity measures consider QOL

- **IGA / SALT score (Scalp)**

- 0 = 0
- 1 = 1-20%
- 2 = 21-49%
- **3 = 50-94% (severe)**
- **4 = 95-100% (very severe)**

- **Severity “upgraders” (AASc)**

- **Impact on psychosocial wellbeing**
- Inadequate response (@6m)
- Diffuse + pull test
- Eyebrow/eyelash involvement



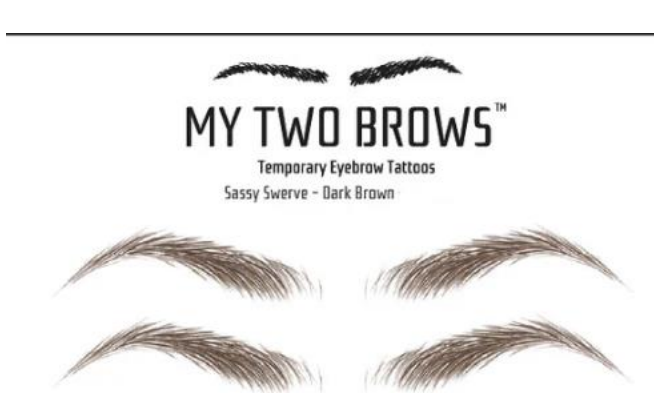
*Does NOT
include
vellus hairs

*Does NOT
include
**eyebrows/
eyelashes**

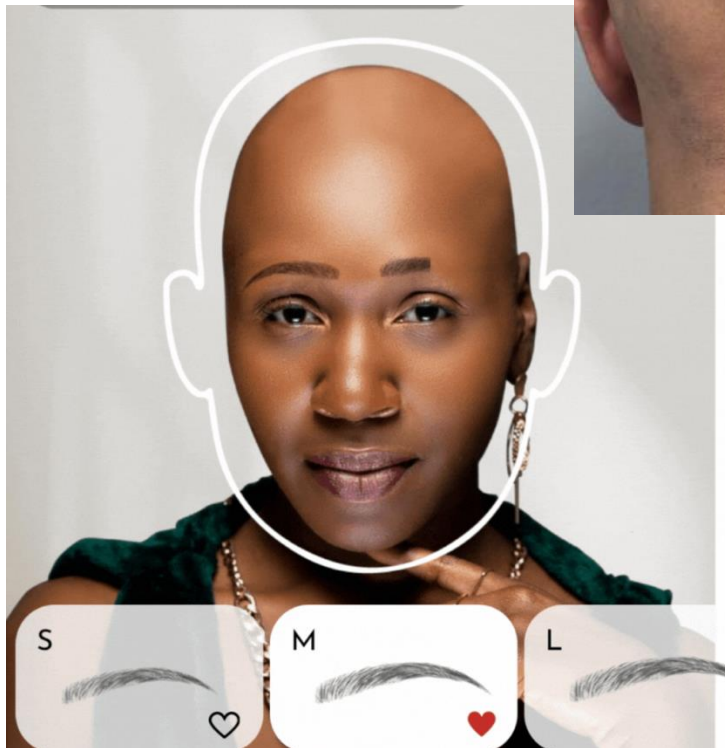
What I have found helpful

- Open ended dialogue
 - How do you feel about your hair loss
 - What are your goals
 - Do you want to try to regrow the hair?
- Address stigma, common untruths upfront
 - this is not contagious and not cancer
- Anxiety screen:
 - Do you consider yourself a worrier? Are you on edge more more often than not?





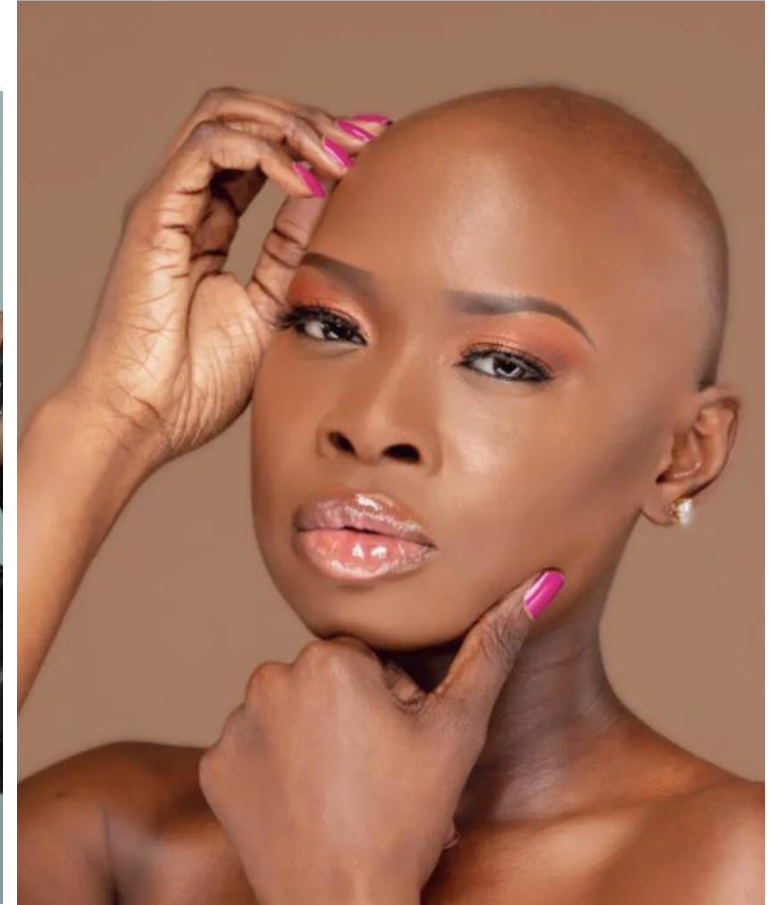
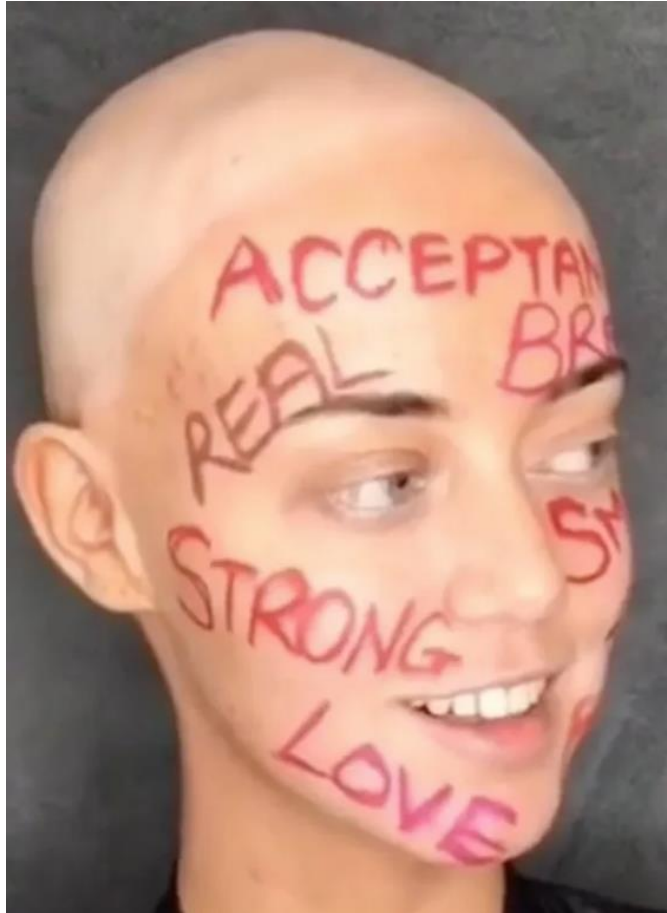
Scalp Tattoos



Microblading



Positive role models can help in messaging



OUTLINE

1. **Quality of Life**
2. **Current treatments of interest**
3. **Treatments being studied**

Adjuncts

Antihistamines
Minoxidil

Steroids

Topical
intralesional
Oral

Systemics

Methotrexate
Dupilumab
JAK Inhibitors

Antihistamines may help!

- Lower immune cell activity
 - Olopatadine, desloratadine, fexofenadine
 - May prevent immune cell migration
 - ↓ CXCL10, ↓ IL15
 - Fexofenadine may affect IFN gamma
-
- Widely used in Japan based on “C1” evidence (11 studies)
 - Regrowth: oxatamide (n=152), cimetidine (n=1), hydroxyzine hydrochloride (n=1)
 - **Fexofenadine** (n=133) –helped in patients being treated with immunotherapy

For seasonal allergies:

Dosing
(Per label,
Not a prescription)

Age 2-12y:
30mg every 12 hrs

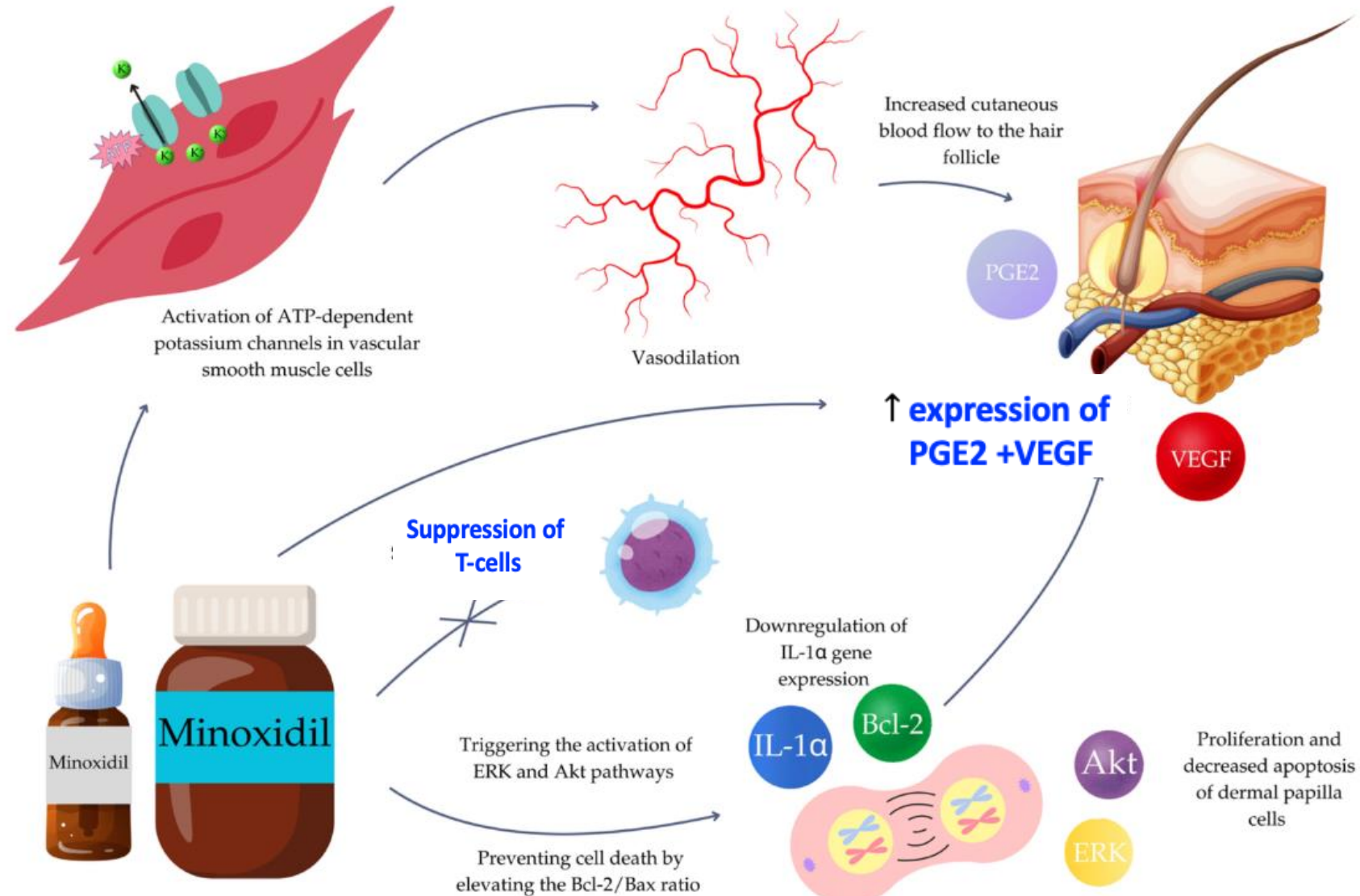
Age 12y+:
60mg every 12 hrs



Fexofenadine



Minoxidil has many proposed mechanisms in AA



Audience Question 2

In the recent consensus recommendations for Low Dose Oral minoxidil, for what ages was minoxidil recommended?

1. 6yrs+
2. 9yrs+
3. 12yrs+
4. 18yrs+

Consensus on LDOM Prescribing age 12y+

JAMA Dermatology | Consensus Statement

Low-Dose Oral Minoxidil Initiation for Patients With Hair Loss
An International Modified Delphi Consensus Statement

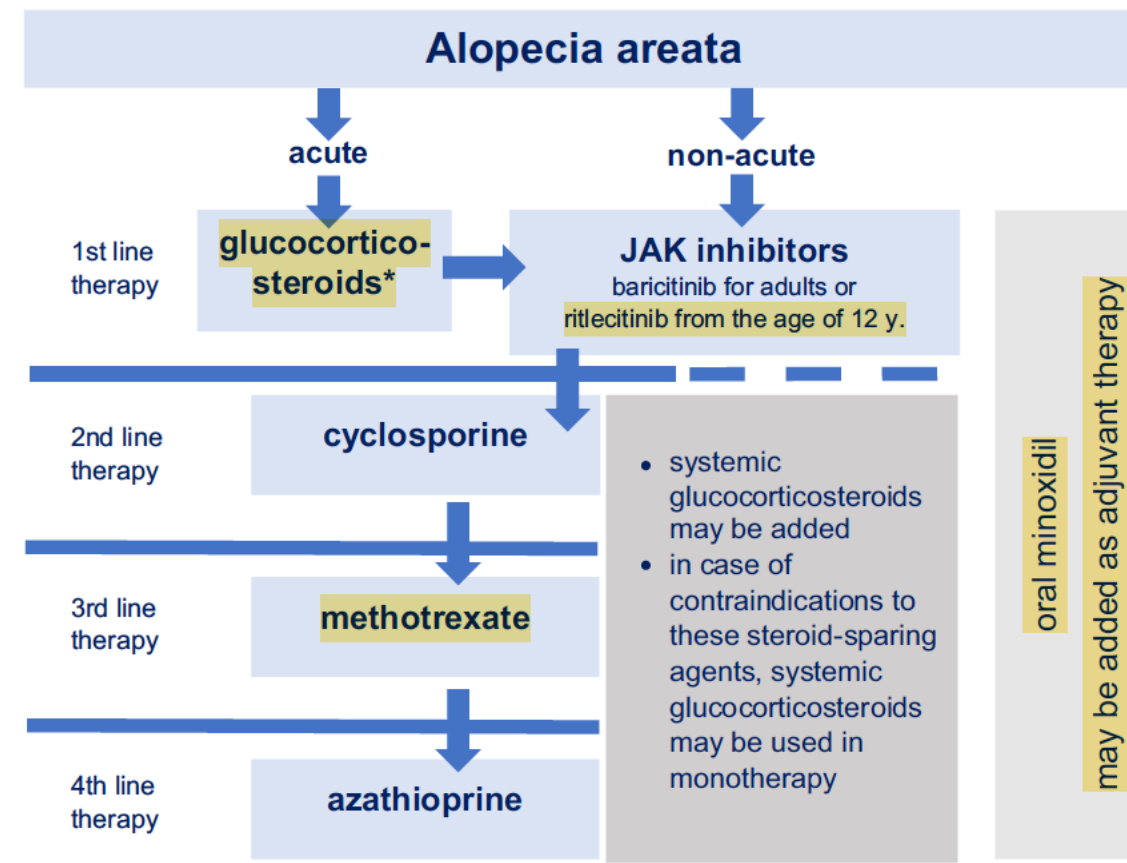
- 43 hair loss specialist dermatologists, 12 countries
- Adolescents (age 12yrs+) and Adults
 - LDOM can be considered in these age groups
 - May provide direct benefit for AA (81%)
 - Females: 1.25mg starting dose, 0.625-2.5mg/day range
 - Males: 2.5mg starting dose, 1.25-5mg/day range
 - Adolescents – consider starting at 50% above doses
 - Earliest efficacy at 3 months, possibly not until 6 months (74%, 84%)

Evidence exists for minoxidil in AA for all ages!

- **Large clinical experience, and under-reported in literature**
- **Topical minoxidil (5% best)**
 - Adult SR: n=338 (5% in 174, response rate 82%, CI 0.7-0.93)
 - ~44% response (n=7), other studies with pediatric patients and good response
- **Oral Low Dose Minoxidil (5mg/day)**
 - Adult study: n=34 x5mg/day, 82% response
 - 2024 SR in peds: improved hair growth, Doses 0.5-5mg/day
 - No D/Cs (N=>52 for AA / 373 peds), Hypertrichosis in 12.1%, Hypotension 5.6%

European expert consensus statement on the systemic treatment of alopecia areata

Consensus for AA:
minoxidil recommended as
adjunct to all systemics!



Minoxidil: how I do it

- **Topical: 5% once daily**

- Either Foam or Solution
 - Foam can leave film
 - not good if infrequent washing
 - Solution: More contact dermatitis
 - Propylene glycol

- **Oral: once daily at night**

- 5mg/day if 18y+
- 2.5mg/day if 12y+
 - 1.25mg if <12yrs or female*

- **Review Side effects:**

- Irritation (solution)
- Hypertrichosis (reversible)
- Hypotension/tachycardia
- Toxicity to cats and dogs

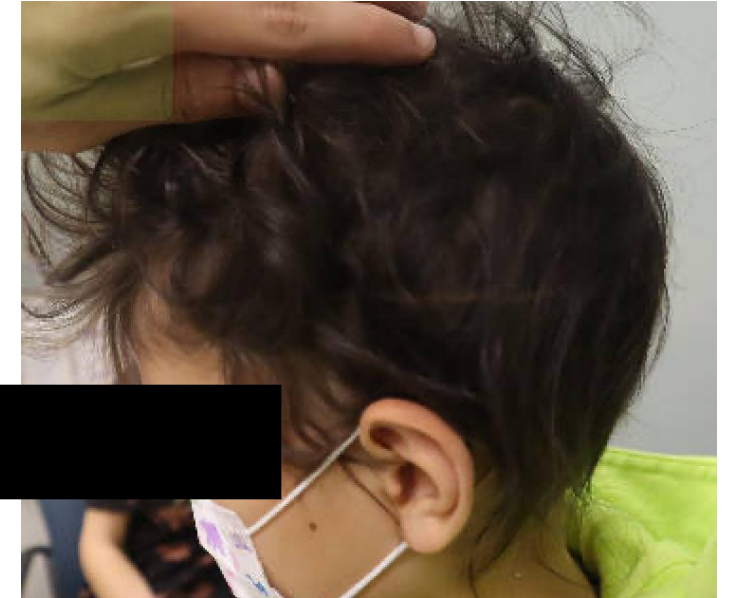
- **Assessments**

- 3-4 months: initial effect
- 1 year: maximal effect

Minoxidil:



Initially Clobetasol alone



Added minoxidil 2.5mg daily

Adjuncts

Antihistamines
Minoxidil

Steroids

Topical
intralesional
Oral

Systemics

Methotrexate
Dupilumab
JAK Inhibitors

Steroids as 1st line in consensus paper

Age	SALT 0-30		SALT 31-50		SALT >50	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
0-6	TOPICAL					
7-12						
13 +	Topical OR ILK	ILK	Topical OR ORAL		Topical +/- ORAL	Topical



- ✓ 2.5-5mg/ml*
- ✓ 0.1mL , 1cm apart, dermis/SC
- ✓ Areas with active disease
- ✓ Max 10-20mg/session (adult)



- ✓ Prednisolone preferred
- ✓ Daily administration
- ✓ 0.4-0.6mg/kg/d taper over 12wks
- ✓ (adults: >12wks)

Topical steroids have evidence

- **Potent topical/ intralesional steroids**

- SR: Response: ~81% (n=52), ILK response 75% (n=280)
- Caution: folliculitis w/ ointments, absorption potential

- **Combinations**

- **Mometasone+ calcipotriol** (n=50): SALT 6.05 → 2.66 at 6m
 - mometasone (n=50) HS: SALT 7.22 → 2.98
- **Betamethasone Dipropionate +calcipotriol** (n=20 SALT <25) → 53% dec SALT
 - Clobetasol (n=20) → 49% decrease SALT, more SEs

Calcipotriol/Betamethasone dipropionate



2 cycles later
(4 months)

BID x 4 wks – daily x 2wks –off x2 wks

Intralesional steroids: 5mg/mL seems best

Meta-Analysis of ILK in AA → regrowth + atrophy

First author	Study design	Level of evidence	Total no. of subjects	Intralesional steroid dose and frequency	Treatment duration	Definition of response, hair regrowth, %	Response rate (%)	Adverse effects
Amimia et al,* 2015	Retrospective cohort	3	120	5 mg/mL every 3 wk	12 wk	>60	100/120 (83.3)	4/120 skin atrophy
Devi et al, [†] 2015	Randomized controlled trial	1	113	10 mg/mL every 3 wk	12 wk	Undefined	84/113 (74.3)	Not reported
Kaur et al, [‡] 2015	Prospective cohort	2	40	2.5 mg/mL every 3 wk	6 wk	>50	27/40 (67.5)	Not reported
Kuldeep et al, [§] 2011	Randomized controlled trial	2	25	10 mg/mL every 3 wk	12 wk	>50	18/25 (72)	6/25 skin atrophy
Mallick et al, 2018	Prospective cohort	2	100	10 mg/mL once monthly for 3 mo	3 mo	>50	75/100 (75)	Not reported
Sanga et al, 2015	Prospective cohort	2	46	5 mg/mL every 3 wk	6 mo	>50	33/46 (71.7)	Not reported
Ustuner et al,** 2017	Randomized controlled trial	2	89	3.33, 5, or 10 mg/mL every 4 wk	6 mo	>75	18/32 (56.3) with 3.33 mg/mL, 29/33 (87.9) with 5 mg/mL, and 33/34 (97) with 10 mg/mL	6/34 skin atrophy with 10 mg/mL

Atrophy:

5mg/ml:
3.3%

10mg/mL
24% (n=25)
17.6% (n=34)

Systemic Steroids: effective but high relapse

- **The evidence (pulses)**

- SR: CR in 43% (466/1078), relapses in 17%
- Peds: CR in 51%, relapses in 60%
- AEs: 21% (peds 12%) –acne, weight gain, GI, edema

- **How I do it:**

- **Dexamethasone** PO Sat/Sun
 - 2mg age <14y, 4 mg 14y+
 - 12 weeks, +/- repeat x 1
- **Prednisone** (tabs or 5mg/mL vs **prednisolone** 1mg/mL)
 - 1 mg/kg/day x 1 wk → 0.5mg/kg x 1wk → 0.25mg/kg x 1wk

Name	Equivalent dose (mg)	Anti-inflammatory potency	Duration of action (hrs)*
Cortisol (hydrocortisone)	20	1	8-12
Cortisone	25	0.8	8-12
Prednisone	5	4	12-36
Prednisolone	5	4	12-36
Methylprednisolone	4	5	12-36
Triamcinolone	4	5	12-36
Betamethasone	0.75	25	36-72
Dexamethasone	0.75	25	36-72
Fludrocortisone [†]	—	10	12-36

Data from Axelrod¹ and Nierman.^{3,2}
*Short acting, 8-12 hours; intermediate acting, 12-36 hours; and long acting, 36-72 hours.
[†]Not used for glucocorticoid effects.

J AM ACAD DERMATOL
JANUARY 2017

Adjuncts

Antihistamines
Minoxidil

Steroids

Topical
Oral

Systemics

Methotrexate
Dupilumab
JAK Inhibitors

Methotrexate works (our first JAKi!)

✓ **Appropriate for tx of severe AA in age 13 +**

Dose: 0.4mg/kg/week (adults: 15-20mg weekly)

Adult: CR 45.7% (165/371), with steroids 72.7%
relapse 52% (100/192), AEs 24% (GI, liver/heme)

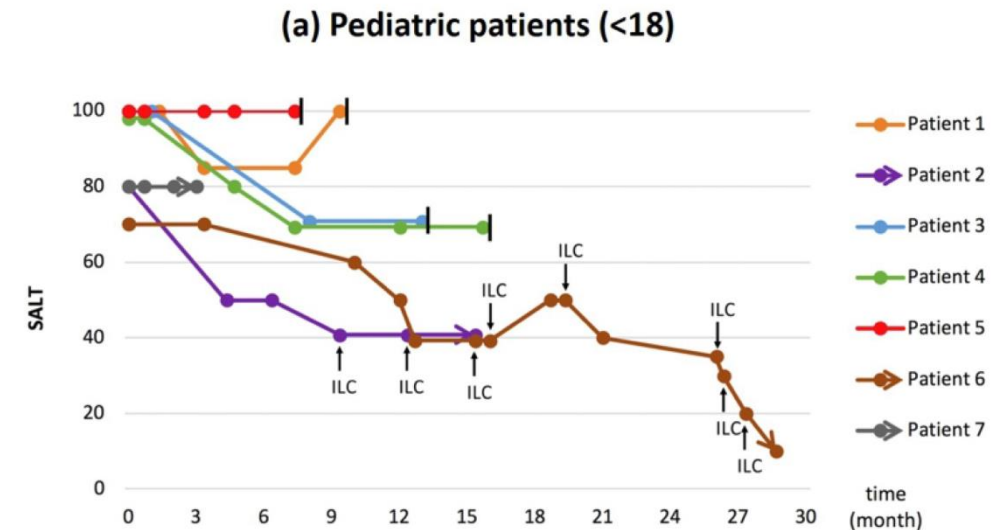
Peds: good/CR 50% (34/68)
relapse 32% AEs 15%

Adult RCT 2023 (n=89 AU/AT, CR ≤SALT10)

MTX alone 12m CR 0%

MTX 12m + pred 6m CR 31%

AEs fatigue 7% nausea 14%



Minimal information on duration of tx or risk of relapse

Landis et al. J Derm Treat 2018(29)2

Royer et al. BJD 2011(165)2

Lucas et al. Acta Derm Venereol 2016; 96: 102

Methotrexate: How I use it

- Counsel 50% response by 6 months
 - Continue for 1 yr if response then R/A
- 0.5mg/kg/week, max 15 mg to start
 - Concurrently with systemic steroids +/- minoxidil
 - PO (pills or solution in pre-filled syringes) → SC
 - Folic acid 1mg/day or 5mg 1x weekly
 - Labs at 1month then q3months
 - Hold: febrile illness + 2 wks after non-live vaccines

Received: 19 December 2022 | Accepted: 26 March 2023
DOI: 10.1111/pde.15327

PEDRA ORIGINAL ARTICLE

Pediatric
Dermatology **WILEY**

Methotrexate for inflammatory skin disease in pediatric patients: Consensus treatment guidelines

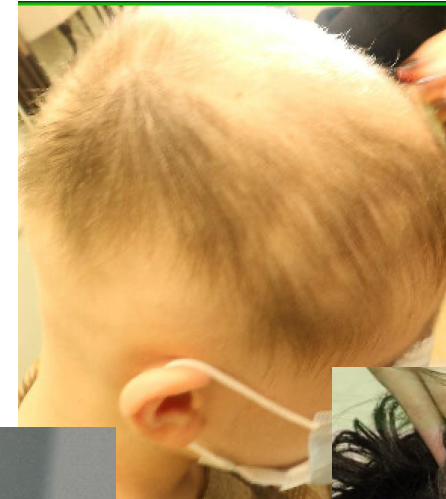
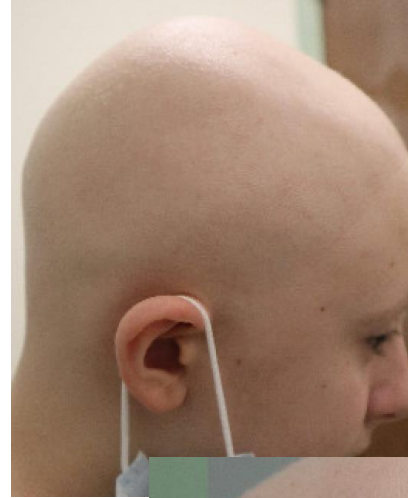
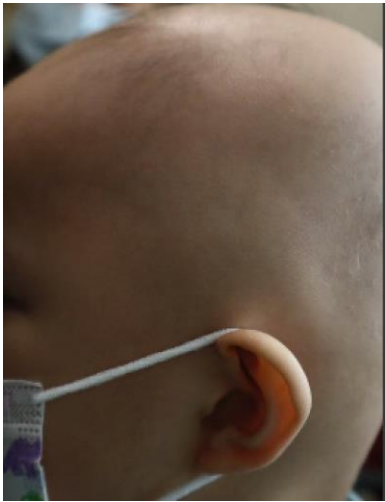
#53: METHOTREXATE

What is methotrexate and how does it work?

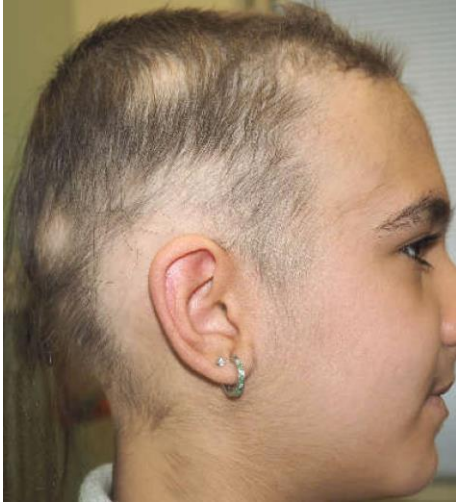
www.pedsderm/net --> handouts

7.5 mg MTX PO (syringes) weekly
0.5mg/kg/week, max 15 mg to start

50 mg Prednisone x 1 week → 25 mg → 12.5 mg
MTX weekly + 2.5mg minoxidil PO daily (3 month → 9 months)



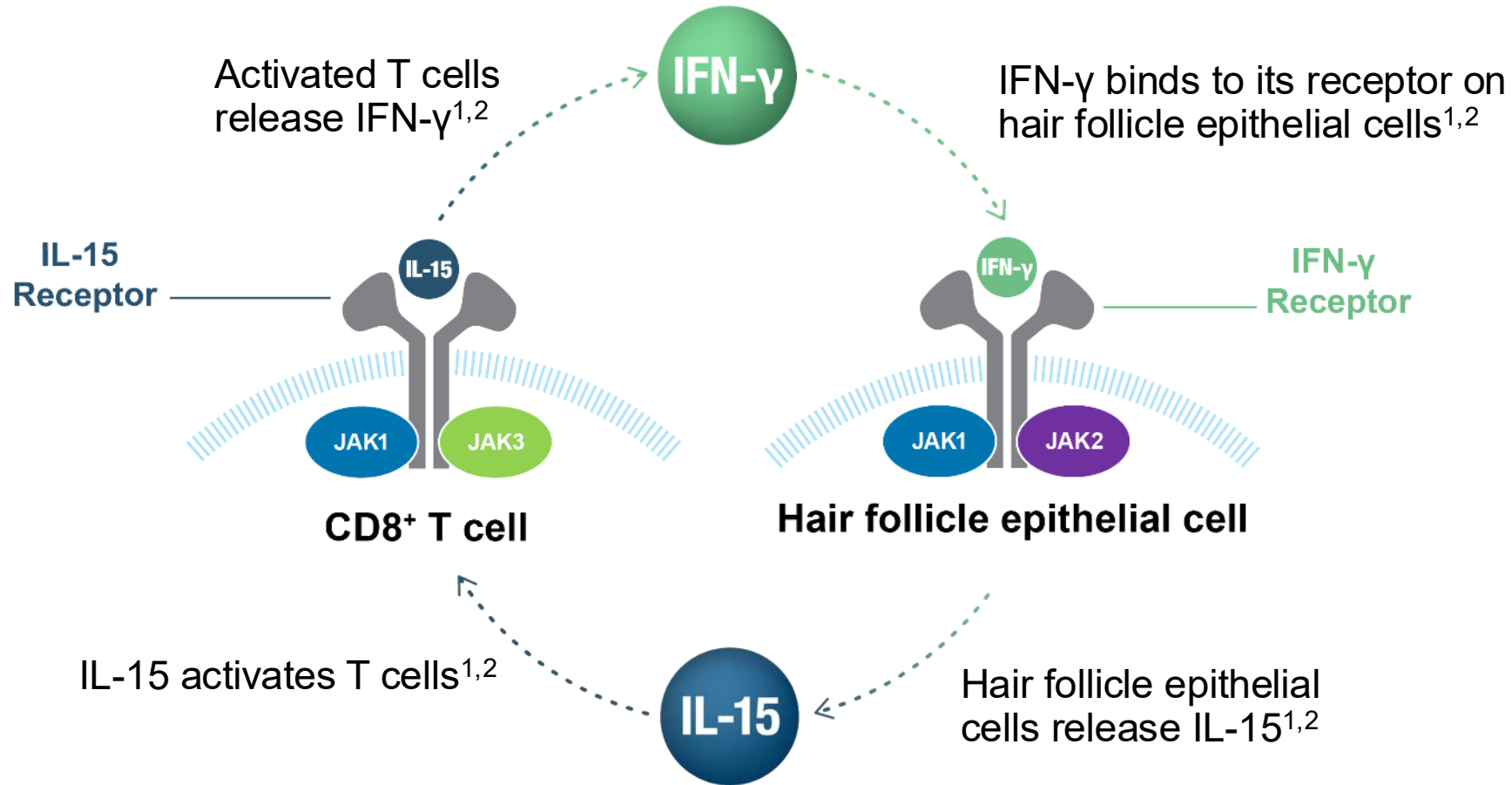
50 mg Prednisone x 1 week → 25 mg → 12.5 mg
MTX 15mg weekly



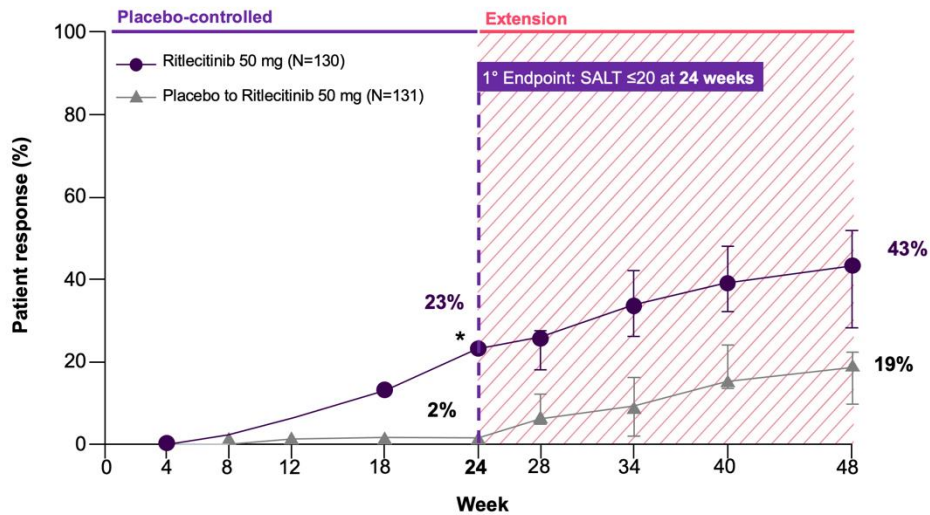
Added LDOM
ILK to patches



Janus Kinase Inhibition has changed AA



Ritlecitinib (JAK3/TEK)

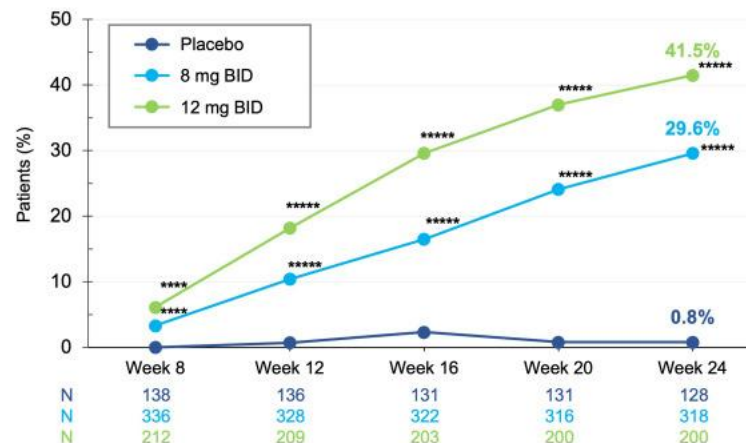


SALT ≤20:

20% at 24 weeks

47% at 48 weeks

Deuruxolitinib (JAK1/2)

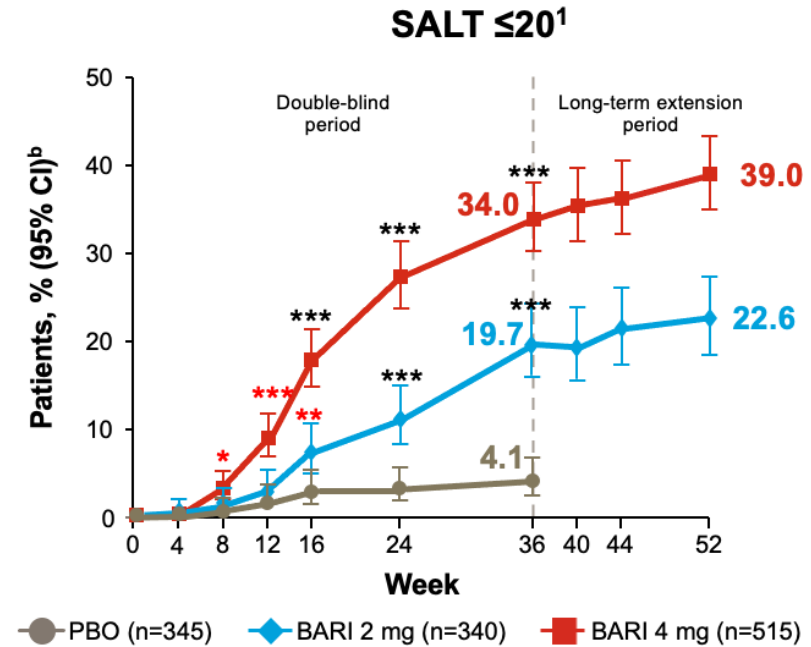


SALT ≤20:

42% at 24 weeks

Baricitinib (JAK1/2)

Baseline SALT score (median) 96



SALT ≤20:

28% at 24 weeks

39% at 52 weeks

All used SALT50 for inclusion

Baricitinib: 2 dose options

Ritlecitinib: No VTE or MACE in black box

4% urticaria, 10% diarrhea

NO lipid derangements, more low platelets

Deuruxolitinib: BID dosing, ?fastest onset, no HC yet

Ritlecitinib 50mg daily



April 2024

Ritlecitinib 50 + minox 2.5



July 2024

No pic

No change
Pred 50x1wk
then 25 x1wk
then 12.5 x1wk

Oct 2024



Jan 2025



May 2025

Baricitinib 4mg daily



May 2024



Nov 2024



March 2025

Tofacitinib (JAK1/3) also works! FDA 2y+ JIA

Characterizing Tofacitinib Response in Pediatric Alopecia Areata: A Retrospective Review

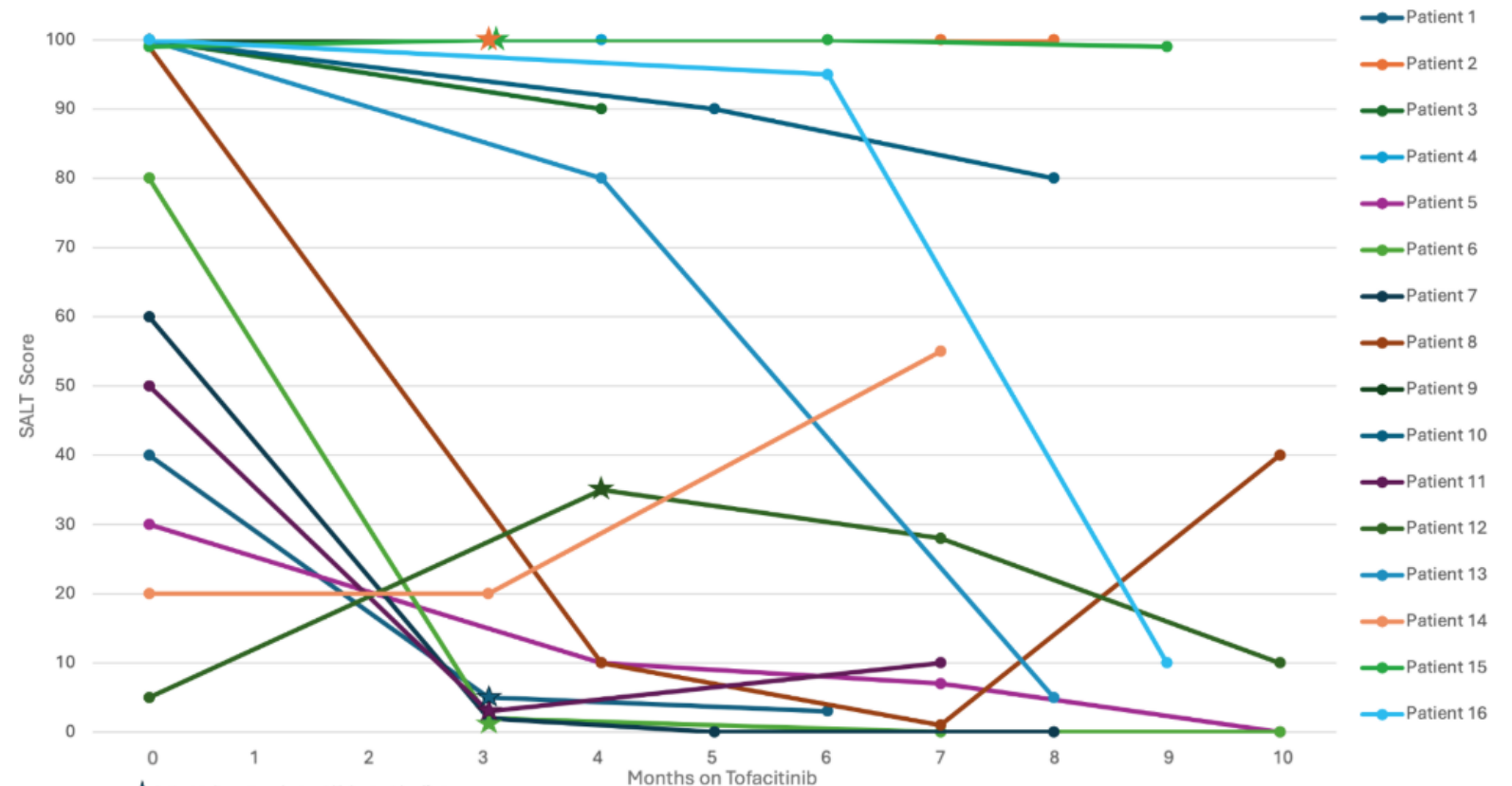
[Michal Moshkovich, BHSc](#) , [Cinthiya Sugumar, BHSc](#), and [Cathryn Sibbald, MD](#)  

Sickkids experience:
16 patients

SALT <20:

- 46% at wk 20-28
- 60% at wk 32-40

Fig 4. SALT score progression in pediatric AA patients (<17 years old) on tofacitinib



Tofacitinib (JAK1/3) 5mg BID



1 year



2 years



5mg PO BID (Generic)

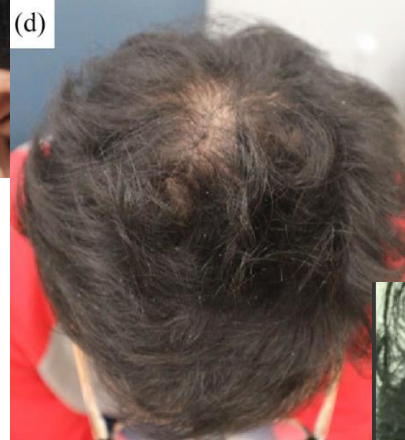
- 4mg BID if 20-<40kg, 3.2mg BID if <20kg
- 1x/day if liver/renal dz OR CYP3A4/2C19 inhibitors
- Monitor: neutropenia, hypertriglyceridemia

Tofacitinib 5mg BID
+ Minoxidil 2.5mg daily
+ intermittent steroids

Upadacitinib (JAK1) also may help, Atopic 12y+



1 year



Strep pustulosis



2.5 years

Phase 3 trial ongoing!
(NCT06012240)

-12-63y with SALT50+

-1399 patients enrolled

-expected completion 2028

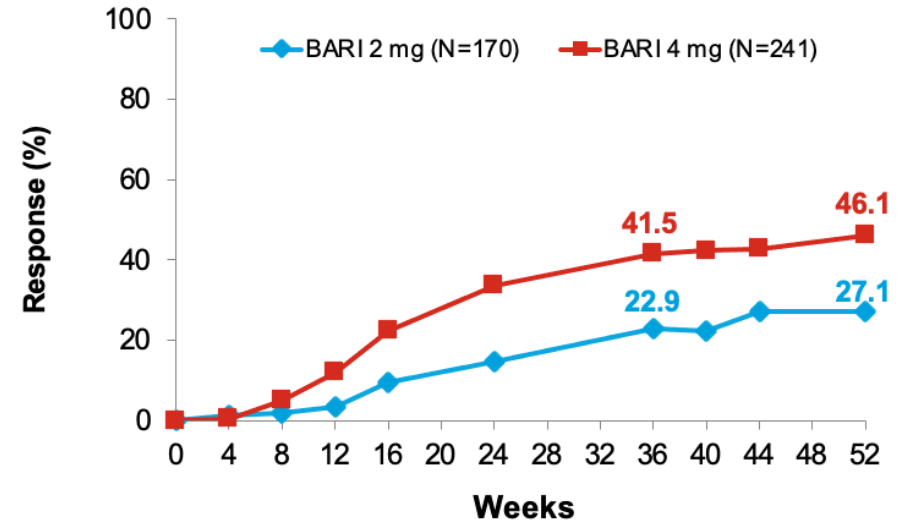
- 15mg daily
- AE monitoring
 - Hyperlipidemia
 - Infections (HSV/VZV, **Strep**/staph)

Many Factors can affect Response to JAKi

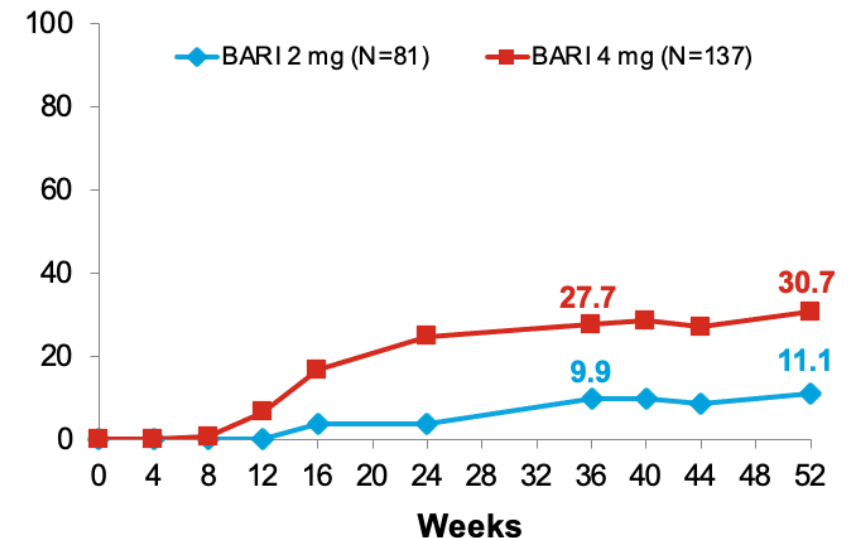
Baricitinib data:

- Dose (4mg better than 2mg)
- Baseline Severity
 - (salt 50-95 better than salt 96-100)
- Duration of Disease (<4yrs vs 4y+)
- Adjuvant minoxidil

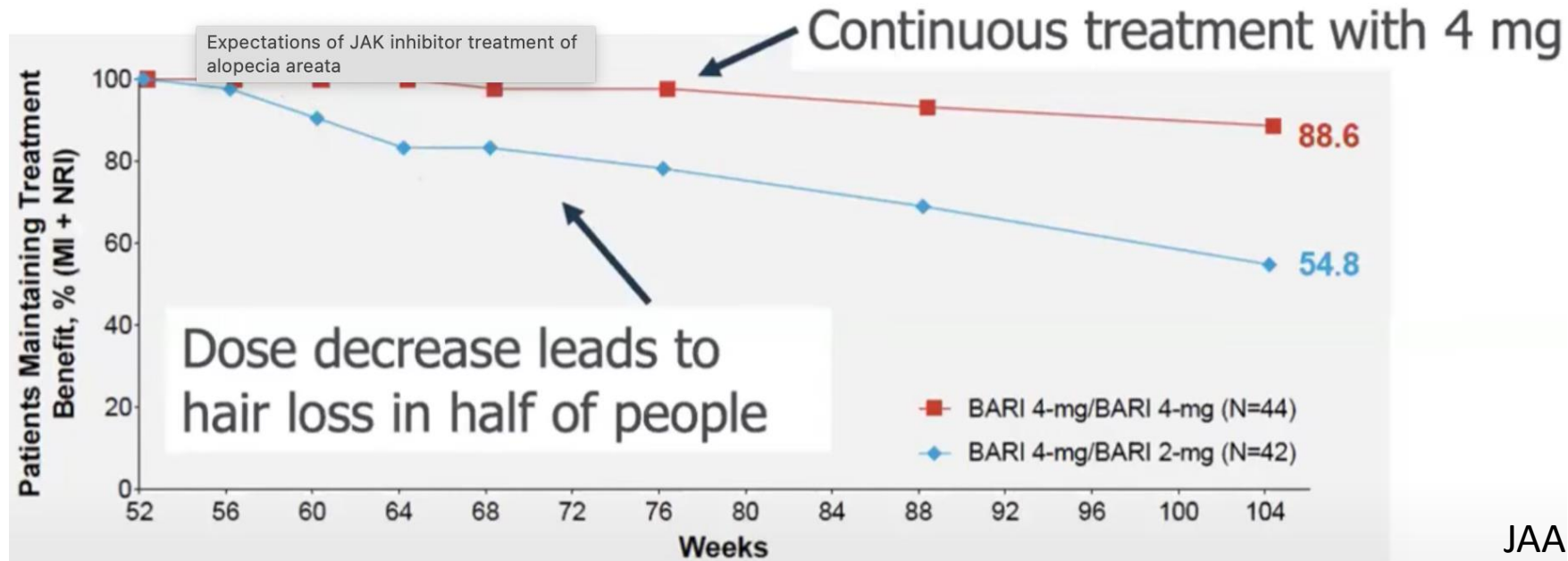
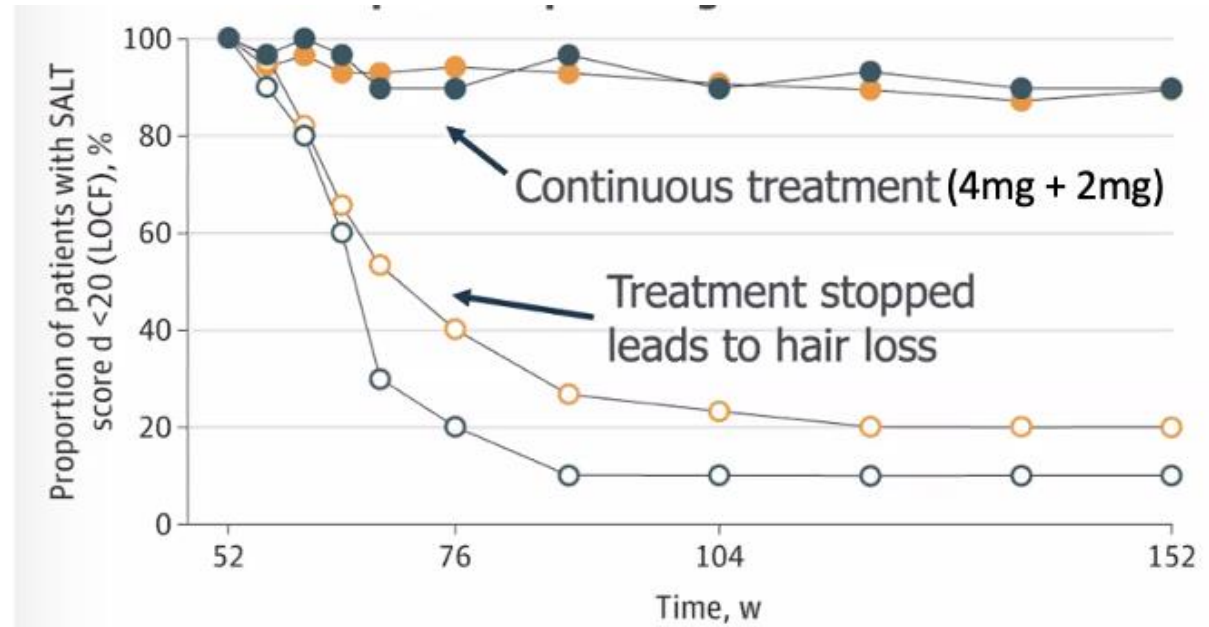
Episode duration: <4 years



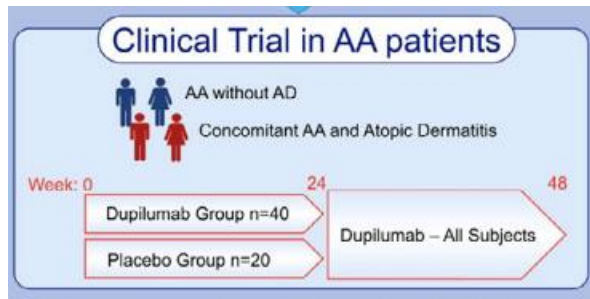
Episode duration: ≥4 years



Hair loss is common when JAKis are stopped



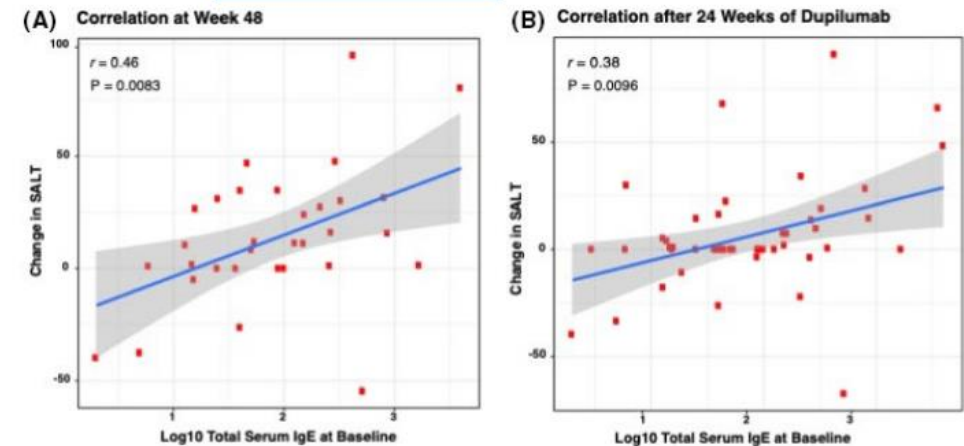
Dupilumab weekly: regrowth in adult AA with history of atopy +/- or high IgE



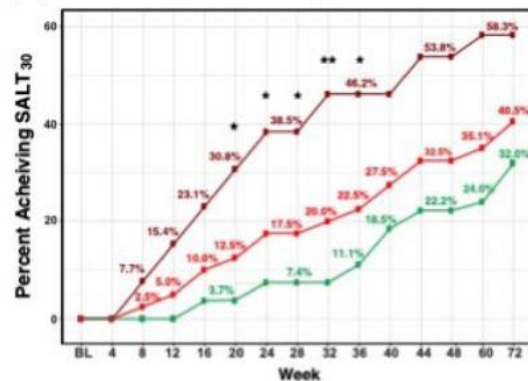
Dupilumab dosing:

300mg weekly

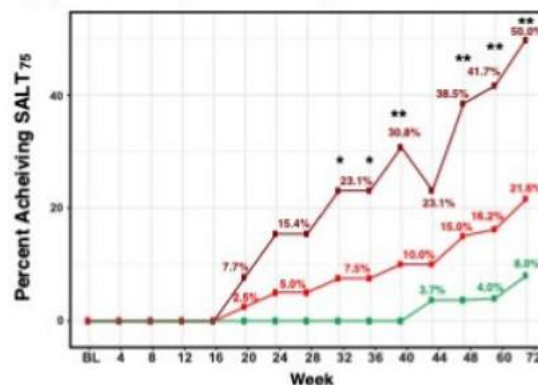
SALT30 in 90%
(vs 31% w/ no atopy bkgd)



(D) SALT₃₀ Responders in Drug Arm



(F) SALT₇₅ Responders in Drug Arm



High IgE at Baseline and Background Atopy Predict Dupilumab Response

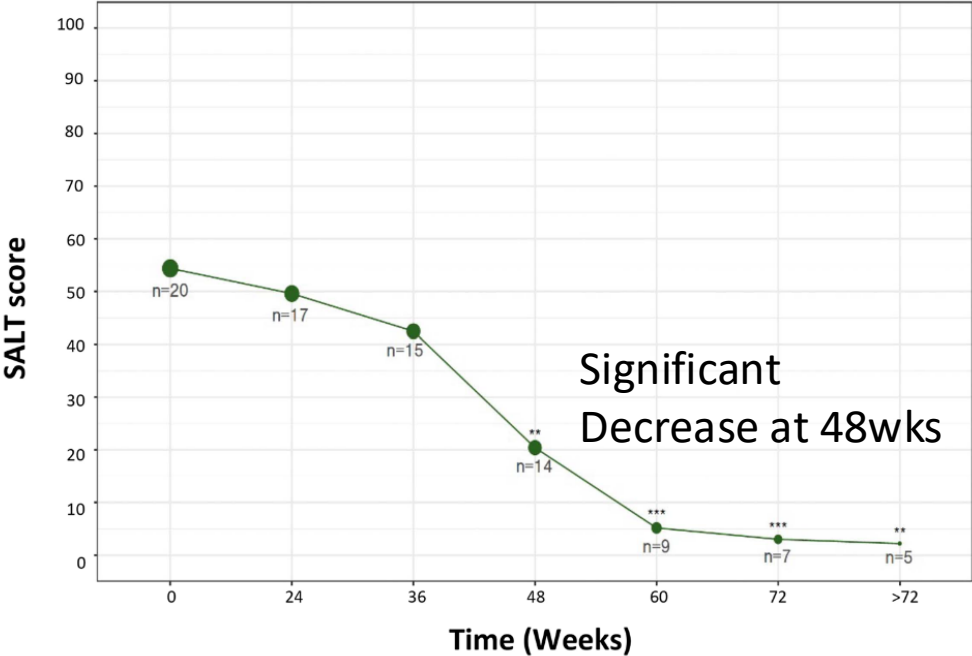
History of AD: 38%

Active AD: 12%

Family Hx: 45%

Dupilumab in Pediatric AA with AD:
those with IgE>200 responded earlier

N=20, mean age 10yrs, 100% with AD
SALT 54.4, EASI 42.9, 40% had IgE>200



Baseline EASI + SALT did not correlate w. response
AEs: 1x self-limited joint pain (?growth spurt)
1x facial rash at 16 mons, lasted 3 months

Dupilumab 300mg q2wks



Baseline
(IgE Nr, 83)

8 months

12 months

24 months

16yM, Sept 2023
Suboptimal MTX response
Started dupi 300mg q2wk
IgE 136



March 2024
(7 months)



17yM, Nov 2023
Prev MTX +LDM, no response
Started dupi 300mg q2wk
(by allergist for asthma)
IgE 351



March 2025
(15 months)



OUTLINE

1. **Quality of Life**
2. **Current treatments of interest**
3. **Treatments being studied**

Audience Question 3

Which of the following is NOT a mechanism being currently pursued in Phase 2 or higher studies?

1. Sphingosine-1-phosphate (S1P) receptor modulator
2. Monoclonal antibody to immunoglobulin-like transcript 7 (ILT7)
3. Anti-PD-1 monoclonal antibody
4. Human anti-IL-7 receptor alpha (IL-7R α) antibody

Many mechanisms being studied....

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Estrasimod

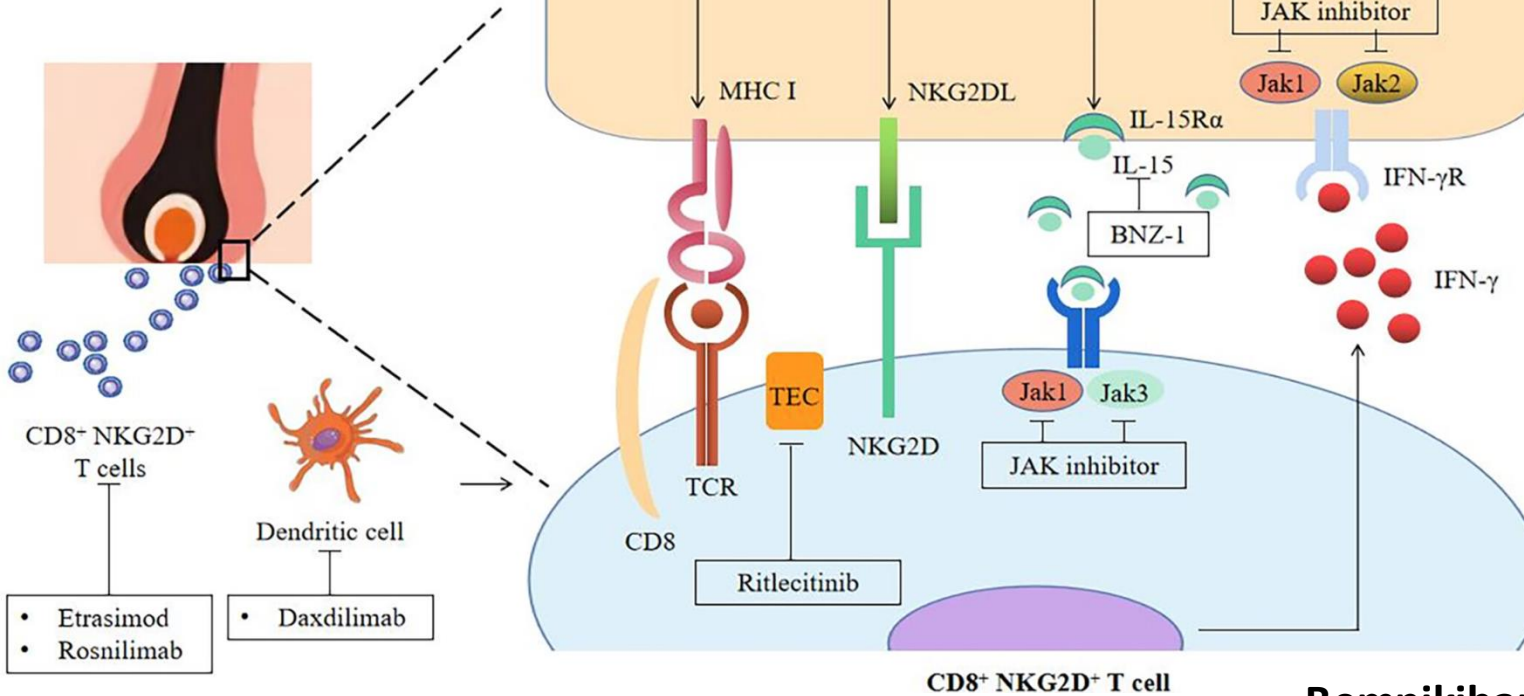
(sphingosine 1-phosphate receptor modulator, PO)

Phase 2: N=80 adults
Improved SALT but did not meet endpoints

Rosnilimab (PD-1 Ab, SC)

Depletes PD1+ Tcells

Phase 2 ongoing



Daxdilimab (blocks ILT7: PDC)

- * depletes PDC (initiate AA)
- * dec IFN activity

Phase 2: ongoing , SC monthly
(NCT05430854)

BNZ (cytokine inhibitor)

- * Dec IL2, 9, 15

Phase 2: ongoing, IV q2wk
(NCT03532958)

Bempikibart (IL7Ra inhibitor)

- * Dec IL7 + TSLP signaling

- * SC q2wks

Phase 2: N=27 x24wks then off

- * Mean SALT dec 17-24% wk 24

- * Further dec (~5%) wk 36

PDC: plasmacytoid

dendritic cells

ILT: Ig-like Transcript

AA associated with decreased mortality

Table II. Mortality risk for patients with alopecia areata according to sex, age, Charlson comorbidity index, and presence of end-organ disease

	Alopecia areata*	Matched control*	aHR (95 % CI)	P value
Overall	212 (2094/98,828)	416 (4119/98,956)	0.498 (0.473-0.526)	<.0001
Sex				
Female	224 (1362/60,673)	452 (2749/60,773)	0.485 (0.466-0.518)	<.0001
Male	193 (675/34,958)	407 (1,424/34,986)	0.464 (0.433-0.519)	<.0001
Age (y)				
<40	531 (275/51,815)	877 (455/51,861)	0.603 (0.519-0.701)	<.0001
40-59	132 (364/27,568)	247 (682/27,593)	0.528 (0.464-0.606)	<.0001
>60	697 (1454/20,858)	1440 (3022/20,918)	0.444 (0.415-0.512)	<.0001
CCI				
0	35.8 (210/58653)	68.7 (403/58684)	0.52 (0.44-0.614)	<.0001
1 or more	946 (1440/15,211)	1700 (2,589/15,253)	0.51 (0.48-0.55)	<.0001
End-organ disease				
Absent	75.1 (635/84,609)	155 (1316/84,696)	0.479 (0.436-0.527)	<.0001
Present	1100 (1626/14,748)	1930 (2848/14,786)	0.519 (0.486-0.555)	<.0001

aHR, Adjusted hazard ratio; CCI, Charlson comorbidity index.

*Mortality outcomes reported as incidence rate of mortality per 10,000 person-years; (number of events/person-years).

Takeaways

1. The psychosocial burden of AA is significant
2. Systemic JAK inhibitors, dupilumab and oral low dose minoxidil have data to support efficacy as monotherapies or combination therapies
3. Multiple new targets are being investigated for targeted treatments of AA

THANK YOU!!

Rising star trainees

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