

Supplementary Material

Title: Application and Comparison of Multiple Dermatological Imaging Evaluation in the Target Treatment of Genital Lichen Sclerosus: A Single-Arm Prospective Study

Running Title: Baricitinib and skin image for GLS

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Supplementary Table 1. The Investigator's Global Assessment (IGA)

Score	IGA score definition
0	cleared no inflammatory signs.
1	minimal disease: minimal erythema/whitening, infiltration, lichenification, and excoriation.
2	mild disease: mild erythema/whitening, infiltration, lichenification, and excoriation.
3	moderate disease: moderate erythema/whitening, infiltration, lichenification, and excoriation.
4	marked disease: marked erythema/whitening, infiltration, lichenification, and excoriation.
5	severe disease: severe erythema/whitening, infiltration, lichenification, and excoriation.

Supplementary Table 2. Dermatology Life Quality Index

1.	Over the last week, how itchy, sore, painful, or stinging has your skin been?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
2.	Over the last week, how embarrassed or self-conscious have you been because of your skin?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
3.	Over the last week, how much has your skin interfered with you going shopping or looking after your home or yard ?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
4.	Over the last week, how much has your skin influenced the clothes you wear?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
5.	Over the last week, how much has your skin affected any social or leisure activities?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
6.	Over the last week, how much has your skin made it difficult for you to do any sport ?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
7.	Over the last week, has your skin prevented you from working or studying ?	yes no	<input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
	If "No", over the last week how much has your skin been a problem at work or studying ?	A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
8.	Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives ?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>

9.	Over the last week, how much has your skin caused any sexual difficulties ?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>
10.	Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Not relevant <input type="checkbox"/>

Option	Score
Very much	3
A lot	2
A Little	1
Not at all/ Not relevant	0

Supplementary Table 3. Modified Vulvar Quality of Life Index

1. Over the past month how itchy and/or painful and/or stinging and/or burning has your genital skin felt?

- Very much
- A lot
- A Little
- Not at all

2. Over the past month, how often have you experienced any of the following: pain when urinating, heat intolerance?

- Very much
- A lot
- A Little
- Not at all

3. Over the last month how embarrassed or self-conscious have you been because of your genital skin symptoms?

- Very much
- A lot
- A Little
- Not at all

4. Over the past month how much has your vulvar skin impacted your body image or sense of self? (For instance, sense of femininity or masculinity, feeling isolated, feeling different)?

- Very much
- A lot
- A Little
- Not at all

5. Over the last month how distressed or anxious have you felt because of your genital skin problem?

- Very much
- A lot
- A Little
- Not at all

6. Over the last month how much has your genital skin problem influenced your choice of clothing (For instance underwear, jeans, gym clothes)?

- Very much
- A lot
- A Little
- Not at all

7. Over the last month how much has your genital skin problem disturbed your sleep?

- Very much
- A lot
- A Little
- Not at all

8. Over the last month how much has your genital skin problem made it difficult for you to go shopping, look after yourself or your family, home, and garden?

- Very much
- A lot
- A Little
- Not at all

9. Over the last month how much has your genital skin problem made it difficult for you to attend social or leisure engagements? (For instance, going out for dinner or bars, dating, sport, exercise class, gym)

- Very much
- A lot
- A Little
- Not at all

10. Over the last month how much has your genital skin problem interfered with your ability to concentrate on work or study?

- Very much
- A lot
- A Little
- Not at all / Not applicable

11. Over the last month how much has your genital skin problem created problems with a partner or precluded you from pursuing a romantic relationship? (For instance, maintaining a relationship or finding a partner)

- Very much
- A lot
- A Little
- Not at all / Not applicable

12. Over the last month how much has your genital skin problem interfered with your sex life? (For instance, decreased libido, decreased frequency of sex, pain with sex and/or enjoyment of sex)

- Very much
- A lot
- A Little
- Not at all /Not applicable

13. Over the last month how often have you felt distressed or worried about sex because of your genital skin?

- Very much
- A lot
- A Little
- Not at all / Not applicable

14. How often in the last month have you been worried about long-term health implications of your genital skin condition? (For instance, concern about developing cancer or difficulties with fertility)

- Very much
- A lot
- A Little
- Not at all

15. Over the past month, how much of a problem has the treatment of your genital symptoms been (For instance messy, time consuming, expensive, inconvenient)?

- Very much
- A lot
- A Little
- Not at all / Not applicable

Option	Score
Very much	3
A lot	2
A Little	1
Not at all/ Not applicable	0

Overall VQLI Score Range	Impact on Quality of Life
0 to 5	minimal
6 to 13	mild
14 to 23	moderate
24 to 37	severe
38 to 45	very severe

Supplementary Table 4. Demographic and clinical characteristics of the study cohort at baseline and week 24

Sex	Age, years	Ethnicity	Disease duration	Disease duration	Follow-up, months	IGA (Week 0 /Week 24)	Symptoms score (Week 0 / Week 24)					DLQI (Week 0 /Week 24)	VQLI (Week 0 /Week 24)	Inflammatory cells count under RCM* (Week 0 /Week 24)
			since diagnose, months	since symptom, months			Pruritus	Pain	Erectile tightness	Dysuria	Dyspareunia			
F	55	Asian	64	70	8	4/1	5/0	3/0	-	0 / 0	0 / 0	18/1	24/1	405/9
F	39	Asian	40	45	8	3/0	4/0	3/0	-	0 / 0	0 / 0	12/1	20/1	324/9
F	55	Asian	52	59	8	4/0	4/0	4/0	-	0 / 0	0 / 0	17/1	25/1	392/4
F	37	Asian	12	24	8	2/0	3/0	0/0	-	0 / 0	0 / 0	6/1	13/1	300/6
F	34	Asian	15	20	8	2/0	1/0	0/0	-	0 / 0	0 / 0	5/0	17/0	324/9
F	35	Asian	52	66	8	4/1	3/0	2/0	-	0 / 0	0 / 0	16/0	31/1	210/4
F	41	Asian	19	28	8	3/0	1/0	1/0	-	0 / 0	0 / 0	12/0	21/2	305/4
F	44	Asian	22	24	8	2/1	1/0	0/0	-	0 / 0	0 / 0	3/0	15/1	321/7
F	19	Asian	67	79	8	4/1	4/0	2/0	-	0 / 0	0 / 0	19/1	20/1	296/5
F	30	Asian	43	48	8	4/1	3/0	2/0	-	0 / 0	0 / 0	14/0	20/2	225/5
F	27	Asian	21	27	8	2/1	1/0	0/0	-	0 / 0	0 / 0	6/0	13/1	404/10
F	22	Asian	29	41	7	3/1	2/0	1/0	-	0 / 0	0 / 0	19/1	10/0	342/9
F	45	Asian	29	35	6	3/1	3/0	2/0	-	0 / 0	0 / 0	13/0	15/0	347/4
F	28	Asian	37	52	5	3/1	3/0	2/0	-	0 / 0	0 / 0	20/1	17/0	300/3
F	19	Asian	17	5	5	2/1	3/0	0/0	-	0 / 0	0 / 0	7/0	18/0	240/4
F	26	Asian	24	29	4	3/1	3/0	1/0	-	0 / 0	0 / 0	15/1	18/0	226/3
F	42	Asian	20	26	3	3/1	2/0	2/0	-	0 / 0	0 / 0	15/0	16/0	304/7

F	50	Asian	25	37	3	2/0	0/0	0/0	-	0 / 0	0 / 0	4/0	7/0	333/7
F	35	Asian	56	65	2	3/0	3/0	1/0	-	0 / 0	0 / 0	14/0	18/2	281/8
F	22	Asian	40	60	2	3/1	2/0	1/0	-	0 / 0	0 / 0	15/0	20/1	238/11
M	41	Asian	38	45	8	3/1	4/0	0/0	3/0	0 / 0	0 / 0	17/1	24/1	252/18
M	33	Asian	36	42	8	3/0	2/0	0/0	1/0	0 / 0	0 / 0	13/0	22/3	205/4
M	27	Asian	10	12	8	2/0	2/0	0/0	0/0	0 / 0	0 / 0	5/0	14/0	317/8
M	40	Asian	48	60	5	4/1	3/0	0/0	3/0	0 / 0	0 / 0	17/0	27/3	321/12
M	24	Asian	35	50	3	3/1	1/0	0/0	1/0	0 / 0	0 / 0	10/0	18/0	270/6
M	35	Asian	42	50	2	3/0	1/0	0/0	1/0	0 / 0	0 / 0	12/0	17/0	289/6

Abbreviations: F, female; M, male; IGA: Investigator's Global Assessment; DLQI: Dermatology Life Quality Index; VQLI: Vulvar Quality of Life Index (modified for both genders); RCM: Reflectance Confocal Microscopy.

*RCM examination was performed within a field of 2.5×2.5mm to assess the inflammatory cells count at the level of superficial dermi

Supplementary Table 5. Laboratory parameters during baricitinib treatment

	Baseline (n=26)	Week 24 (n=26)	P-value
Complete blood count			
WBC (10 ⁹ /L)	6.89±1.78	7.13±1.44	0.5247
PLT (10 ⁹ /L)	252.43±63.04	247.14±67.02	0.7132
ANC (10 ⁹ /L)	3.95±1.40	4.2±1.09	0.4008
ALC (10 ⁹ /L)	2.13±0.54	2.11±0.55	0.8937
Hgb (g/L)	140.57±7.72	142.71±9.50	0.5302
Biochemical tests			
ALB (g/L)	44.83±2.28	46.57±2.52	0.1329
ALT (U/L)	20.71±8.83	15.43±3.66	0.2828
AST (U/L)	20.71±7.21	18.14±2.85	0.4021
Cr (μmol/L)	61.7±8.33	66.04±14.44	0.2877
TC (mmol/L)	4.62±0.58	4.76±0.47	0.6385
TG (mmol/L)	1.17±0.35	1.26±0.46	0.6424
HLD (mmol/L)	1.67±0.35	1.63±0.35	0.669
LDL (mmol/L)	2.83±0.49	2.91±0.35	0.765
VLDL (mmol/L)	0.58±0.15	0.57±0.22	0.8897
GFR (ml/min)	108.28±14.09	104.3±13	0.3529
Coagulation function tests			
PT (s)	11.69±1.16	11.53±0.86	0.7755
PT-INR	0.98±0.08	0.99±0.06	0.9193
APTT (s)	30.6±5.49	30.49±3.25	0.9527
Fg (g/L)	2.72±0.51	2.54±0.42	0.2597
TT (s)	17.51±0.99	17.77±1.03	0.6036
Inflammatory markers			
ESR (mm/h)	15.68±1.94	15.39±2.09	0.8198
CRP (mg/L)	5.63±0.83	5.35±0.85	0.1518

Data are mean ± standard deviation. The P-values were calculated by t-test. WBC: white blood cells; PLT: platelet; ANC: absolute neutrophil count; ALC: absolute lymphocyte count; Hgb: hemoglobin; ALB: albumin; ALT: alanine aminotransferase; AST: aspartate transaminase; Cr: creatinine; TC: total cholesterol; TG: triglyceride; HLD: high density lipoproteins; LDL: low density lipoproteins; VLDL: very low density lipoproteins; GFR: glomerular filtration rate; PT: prothrombin time; PT-INR: prothrombin time-international normalization ratio; APTT: activated partial thromboplastin time; Fg: fibrinogen; TT: thrombin time; ESR: erythrocyte sedimentation rate; CRP: C-reactive protein.