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Table SI. Quality assessment for case-control studies based on Newcastle-Ottawa-Scale.

First author, year ^{reference}	Selection Bias Assessment (Maximum 4 stars)						Comparability (Maximum 2 stars)				Outcome (Maximum 3 stars)				Total score (Maximum 10 stars)		
	Is the case definition adequate?		Representativeness of the cases		Selection of controls		Definition of controls		Comparability of cases and controls on the basis of the design or analysis		Assessment of the exposure		Same method of ascertainment for cases and controls			Non-response rate	
	selection	score	selection	score	selection	score	selection	score	age and sex matched	on other risk factors (race-matched)	selection	score	selection	score		selection	score
Harrington et al., 1981 ²	a, *		b		b		b		*			a, *		a, *		NA	4
Sideri et al., 1989 ³	a, *		a, *		b		b					c		a, *		a, *	4
Meeks et al., 2010 ⁴	b		b		b		b		*	*		a, *		a, *		NA	4
Bjekić et al., 2011 ⁵	a, *		b		b		a, *		*			c		a, *		NA	4
Higgins et al.,	a, *		a, *		b		a, *					c		a, *		NA	4

2012⁶										
Becker et al., 2013⁷	a, *	a, *	b	a, *			c	a, *	b	4
Hofer et al., 2014⁸	b	a, *	b	b	*	*	a, *	a, *	NA	5
Blaschko et al., 2015⁹	b	a, *	b	a, *			a, *	a, *	a, *	5
Erickson et al., 2016¹⁰	b	a, *	b	a, *			a, *	a, *	NA	4
Fuchs et al., 2017¹¹	b	b	b	a, *	*		a, *	a, *	NA	4
Basile et al., 2018¹²	a, *	b	b	a, *	*	*	a, *	a, *	NA	6
Hu et al., 2021¹³	b	a, *	b	a, *			b, *	a, *	b	4
Bieber et al., 2021¹⁴	b	a, *	b	a, *			a, *	a, *	a, *	5
Hietala et al., 2021¹⁵	b	a, *	b	a, *	*		e	NA	a, *	4
Nizinski et al., 2022¹⁶	a, *	b	b	a, *	*		a, *	a, *	NA	5

Fan et al., 2022¹⁷	b	b	c	a, *	*	*	a, *	a, *	NA	5
Fan et al., 2022¹⁸	b	b	c	a, *	*	*	a, *	a, *	NA	5
Hieta et al., 2023¹⁹	a, *	a, *	b	a, *	*		a, *	a, *	NA	6
El Khoury et al., 2023²⁰	a, *	b	b	a, *	*		a, *	a, *	b	5
Söderlund et al., 2023²¹	a, *	b	b	a, *	*		a, *	a, *	NA	5
Luu et al., 2023²²	a, *	b	b	a, *	*	*	e	NA	NA	4

NA – not available. For the explanation of the letters a-e go see https://www.ohri.ca/programs/clinical_epidemiology/nosgen.pdf.

Table III. Main characteristics of the included studies.

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Harrington et al., 1981 ²	United Kingdom	Single center	Females	50, histological	Patients who attended skin clinic for minor complaints, 50	Not specified	Age-, sex-matched	Vitiligo, 2/0 Alopecia areata, 5/1 Diabetes mellitus, 3/0 Hypothyreosis, 2/0 Thyrotoxicosis (hyperthyroid), 4/1 Pernicious anaemia, 5/0	Questionnaire/interview, examination or other clinical tests and chart review
Sideri et al., 1989 ³	Italy	Single center	Females	75, histological	Women admitted for acute conditions in other hospitals, 225	Not specified	Age-, sex-matched	Diabetes mellitus, 6/18 Systemic lupus erythematosus, 0/0 Obesity, 7/23	Questionnaire/interview

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Meeks et al., 2010 ⁴	NA	Multi center	Males	97, histological	Those who presented to their urology department for any treatment, 485	Not specified	Age-, sex- and race-matched	Hypogonadism, 3/62 ^a	ICD codes
Bjekić et al., 2011 ⁵	Serbia	Single center	Males	73, clinical	Tinea cruris patients from the same institution, 219	Absence of signs and symptoms of LS	Age-, sex- and residence matched	Vitiligo, 9/0 Alopecia areata, 9/2 Psoriasis, 2/0 Rheumatoid arthritis, 1/0 Behçet's disease, 1/0 Reiter syndrome, 1/0 Dyslipidaemia, 22/37	Questionnaire/interview

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Diabetes mellitus, 10/16 Gonorrhoea, 10/15 Nongonococcal urethritis, 8/6 Genital warts, 7/8 Genital candidiasis, 7/6 Lyme disease, 0/0	
Higgins et al., 2012 ⁶	United Kingdom	Single center	Females	92, clinical or histological	Recruited during attendance at a routine general gynaecology clinic, 66	Not specified	Sex-matched	Vitiligo, 7/2 Alopecia, 1/0 Psoriasis, 5/4 Rheumatoid arthritis, 9/2 Diabetes mellitus, 6/0 ^b	Questionnaire/interview

First author, year ^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Pelvic infections, 5/3 Hypothyreosis, 18/9 Thyrotoxicosis (hyperthyroid), 4/2 Celiac disease, 2/1 Pernicious anaemia, 2/1 Systemic lupus erythematosus, 0/0 Dermatitis/eczema, 6/3 Hay fever, 4/16 Recurrent urinary tract infections, 10/4	

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Becker et al., 2013 ⁷	Germany	Single center	Males	48, histological	Non-LS circumcised patients, 44	Histological	Sex-matched	Atopic dermatitis, 9/4 Atopy, 12/3	Questionnaire/interview and examination/other clinical tests
Hofer et al., 2014 ⁸	USA	Multi center	Males	97, histological	Patients from Data Warehouse and own urethral stricture database without LS, 485	Not specified	Age-, sex- and race matched	Dyslipidemia, 21/81 Diabetes mellitus, 15/40 Hypertension, 35/146 Coronary artery disease, 15/43 Peripheral vascular disease, 9/37 Cerebrovascular disease, 6/40	ICD codes and chart review

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Skin disorder, 27/151	
Blaschko et al., 2015 ⁹	USA	Multi center	Males	513, not specified	Patients with ICD-9 code for urethroplasty and urethral stricture but without codes for LS, 13187	Based on ICD10/patient register/chart	Sex matched	Rheumatoid arthritis, 108/66 Diabetes mellitus, 127/1279 ^c Hypertension, 232/3231 Depression, 29/396 Peripheral vascular disease, 14/79 Obesity, 101/818 Chronic pulmonary disease, 43/897 Alcohol abuse, 11/171	Chart review

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Drug abuse, 11/132 Coagulopathy, 10/66	
Erickson et al., 2016 ¹⁰	USA	Multi center	Males	81, clinical or histological	Men undergoing urethral reconstruction without LS, 1070	Absence of signs and symptoms of LS	Sex matched	Dyslipidemia, 25/197 Diabetes mellitus, 17/128 Hypertension, 43/325 Coronary artery disease, 11/91 Peripheral vascular disease, 2/15	Not specified
Fuchs et al., 2017 ¹¹	USA	Single center	Males	50, histological	Age matched boys who also underwent circumcision, 250	Absence of signs and symptoms of LS	Age-, sex-matched	Obesity, 21/31	With examination or other clinical tests

First author, year ^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Basile et al., 2018 ¹²	Italy	Single center	Females	95, histological	Controls from urogynecology clinic, 78	Absence of signs and symptoms of LS	Age-, sex- and race matched	<i>Helicobacter pylori</i> infection, 30/7 ^d	With clinical tests
Hu et al., 2021 ¹³	USA	Single center	Females	865, clinical or histological	Women with other vulvar conditions, 1118	Not specified	Sex-matched	Thyroid diseases (including abnormal thyroid hormones), 222/134 Hypertension, 244/164 Kidney problems, 56/39 Peptic ulcer disease/gastroesophage	Questionnaire/interview

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								al reflux disease, 273/233 Urinary incontinence, 259/193 Fibromyalgia, 92/73 Liver problems, 25/15	
Bieber et al., 2021 ¹⁴	USA	Multi center	Females	10004, clinical or histological	IBM MarketScan Database - women without L900, 21672016	Based on ICD10/patient register/chart	Not specified	Vitiligo, 195/34539 Psoriasis, 512/255270 All autoimmune thyroid diseases, 767/433239	ICD codes

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Hieta et al., 2021 ¹⁵	Finland	Single center	Females	455, clinical or histological	Turku University Hospital patient register, 4550	Based on ICD10/patient register/chart	Age-, sex-matched	Alopecia areata, 2/3 Androgenetic alopecia, 3/2 Psoriasis, 9/26 Rheumatoid arthritis, 8/83 Dyslipidemia, 40/291 Diabetes mellitus type II, 41/278 Hypothyreosis, 33/213 Bullous pemphigoid, 3/4 Atopic dermatitis, 21/55	ICD codes

First author, year ^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Seborrhoeic dermatitis, 3/8 Lichen planus, 27/28 Hypertrichosis, 2/3 Lupus erythematosus (dermal), 4/4 Systemic lupus erythematosus, 6/14 Discoid lupus erythematosus, 3/1 Morphea, 6/1 Felty syndrome, 2/2 Hypertension, 113/878	

First author, year ^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Hypertensive heart disease, 10/25 Adjustment and management of cardiac devices, 11/45 Atrioventricular block, 6/22 Chronic rhinitis, nasopharyngitis or pharyngitis, 7/20 Tension type headache, 12/50 Visual disturbances, 9/42	

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Nizinski et al., 2022 ^{16e}	Poland	Single center	Females	20, clinical	Other gynaecological patients, 35	Not specified	Age- and sex-matched	Asthma and/or allergy, 4/0 Hashimoto thyroiditis, 4/9 Rheumatoid arthritis, 3/7	Case notes were reviewed
Fan et al., 2022 ¹⁷	USA	Multi center (All of Us Research Program)	Females	765, ICD9/10 and/or SNOMED code for LS	Females without ICD9/10/SNOME D code for LS, 3060	Not specified	Age, sex and race-matched	Alcohol use disorder, 21/88 Depression, 325/747 Anxiety, 326/693	ICD9/10 and/or SNOMED codes for depression and anxiety

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
		, a National Institutes of Health database)							
Fan et al., 2022 ¹⁸	USA	Multi center (All of Us Research Program	Females	765, ICD10 or SNOMED code for LS	Females without ICD10/SNOMED code for LS, 3060	Not specified	Age, sex and race-matched	Thyroiditis, 56/83 Autoimmune thyroiditis, 49/66 Hypothyroidism, 254/540 Hyperthyroidism, 44/89 Stroke, 35/135	ICD10 and/or SNOMED codes for thyroid diseases

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
		, a National Institutes of Health database)							
Hieta et al., 2023 ¹⁹	Finland	Single center	Males	630, ICD10 or QPATI information system	Patients without LS diagnosis from the hospital's electronic health records, 6300	Not specified	Age-, sex-matched	Lichen planus, 29/18 Psoriasis, 18/56 Atopic dermatitis, 26/109 Asthma, 38/236 Vasomotor and allergic rhinitis, 28/116	ICD-10 codes

First author, year ^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Anogenital warts, 43/67 Chlamydial infection, 27/86 Anogenital herpes simplex infection, 14/21 Balanoposthitis, 97/56 Obesity, 36/145 Type 2 diabetes mellitus, 67/306 Sleep apnea, 71/369 Essential hypertension, 123/709	

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
								Disorders of lipoprotein metabolism, 55/288 Angina pectoris, 24/136 Phlebitis and thrombophlebitis, 15/52 Chronic peripheral venous insufficiency, 18/54 Hypothyreosis, 14/54	
El Khoury et al., 2023 ²⁰	Lebanon	Single center	Males	47, histological	Circumcised patients without LS, 47	Histologically	Age-, sex-matched	Alcohol abuse, 0/0 Diabetes, 14/5 Hypertension, 21/8	Medical records and phone calls

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
Söderlund, et al., 2023 ²¹	Finland	Single center	Females	455, clinical and/or histological	Randomly selected patients from the hospital register without diagnosis of LS, 4550	Not specified	Age-, sex-matched	Anogenital condyloma, 30/37 Obesity, 36/80 Inflammatory bowel disease, 5/59 Diverticular disease of the intestine, 34/183 Functional intestinal disorders, 14/60 Celiac disease, 13/19 Urinary incontinence, 30/62	Data from the electronic patient register
Luu et al., 2023 ^{22 f}	USA	Single center	Females	77, not specified	Melanoma patients, 58	Not specified	Age-, sex- and	Diabetes, 6/1 Hypertension, 17/16	Not specified

First author, year^{reference}	Country	Study source	Sex	Number of LS patients, a method for diagnosing LS	Control group, number	Exclusion of LS in a control group	Matching of cases and controls	Comorbidity, number of events cases/number of events controls	Identification of comorbidities
							race-matched	Asthma, 8/4 Holecystectomy, 21/6	

ICD – International Statistical Classification of Diseases and Related Health Problems; LS – lichen sclerosus; NA – not available; SNOMED – Systematized

Nomenclature of Medicine

^aData were exclusively extracted for ICD9 diagnosis of hypogonadism, excluding cases and controls receiving testosterone treatment.

^bFor diabetes mellitus data were combined for both insulin-dependent and non-insulin dependent cases.

^cFor diabetes mellitus data were combined for diabetes with and without chronic complications.

^dOnly data on Helicobacter pylori stool antigen test were extracted without serology results to identify cases and controls with active infection.

^eOnly data about diseases recorded for both cases and controls were extracted. Data about serological testing for celiac disease were left out due to lack of data about clinical presentation.

^fBody mass index data were not extracted due to insufficient data.

Table III. The PRISMA checklist.

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	3
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	3
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	3,4
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	3
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	3, appendix S1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	3
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	3, 4
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	4
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	3, 4
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	4
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	4

Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	4
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	4
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	4
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	4
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	4
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	4
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	4
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	4
Section and Topic	Item #	Checklist item	Location where item is reported
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	4
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	4
Study characteristics	17	Cite each included study and present its characteristics.	Table SII
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Table SI
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Fig. 2
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Fig. 2, Table SI
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Fig. 2, Table SIV, Table SV

	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Table SIV, Table SV
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Fig. 2, Table SIV, Table SV
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Table SIV, Table SV
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Table SIV, Table SV
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	5, 6
	23b	Discuss any limitations of the evidence included in the review.	6, 7
	23c	Discuss any limitations of the review processes used.	6, 7
	23d	Discuss implications of the results for practice, policy, and future research.	7
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	3
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	3
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	PROSPERO CRD4202233352 0
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	9
Competing interests	26	Declare any competing interests of review authors.	9
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	9

Table SIV. Assessment of heterogeneity and publication bias for the meta-analyses investigating comorbidities in females with lichen sclerosis.

Disease	Number of studies	Q	I² (%) *	Egger's test**
Hypothyreosis (including Hashimoto thyroiditis)	5	9.13	0.56	1.00
Psoriasis	3	64.76	0.97	1.00
Rheumatoid arthritis	4	293.98	0.99	0.88
Essential Hypertension	4	31.96	0.91	0.95
Vitiligo	3	55.07	0.96	0.98
Thyrotoxicosis (hyperthyroidism)	3	0.57	0.00	0.99
Systemic lupus erythematosus	3	0.77	0.00	0.63
Obesity	3	15.92	0.87	0.98
Diabetes mellitus	5	7.68	0.48	1.00

*The I² values indicate the percentage of variability in effect estimates that is due to heterogeneity rather than chance.

**Egger's test is used to assess the presence of publication bias in meta-analyses. $p < 0.05$ suggests the presence of publication bias.

Table SV. Assessment of heterogeneity and publication bias for the meta-analyses investigating comorbidities in males with lichen sclerosis.

Disease	Number of studies	Q	I² (%)[*]	Egger's test^{**}
Dyslipidemia (hypercholesterolaemia)	4	1.62	0.00	0.98
Essential hypertension	4	6.68	0.55	0.99
Diabetes mellitus	4	0.94	0.00	0.73

^{*}The I² values indicate the percentage of variability in effect estimates that is due to heterogeneity rather than chance.

^{**}Egger's test is used to assess the presence of publication bias in meta-analyses. $p < 0.05$ suggests the presence of publication bias.

SUPPLEMENTAL APPENDICES

APPENDIX S1. The complete search strategy.

"Lichen Sclerosus et Atrophicus"[Mesh] OR "Balinitis Xerotica Obliterans"[Mesh] OR "lichen sclerosis" [tw] OR "lichen albus" [tw] OR "hypoplastic dystrophy" [tw] OR "kraurosis vulvae" [tw] OR "white spot disease" [tw]