Supplementary Material

Treatments for moderate-to-severe alopecia areata: a systematic narrative review

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Table S1. Search strategies for the SLR

A. ProQuest (MEDLINE and Embase)

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
Population	S1	(MESH.EXACT("Alopecia Areata") OR EMB.EXACT("alopecia areata") OR TI,AB("alopecia areata" OR "alopecia universalis" OR "alopecia totalis" OR "alopecia circumscripta" OR "alopecia ophiasis"))	13530	14104	350†
Randomized controlled trial (RCT)	S2	(TI,AB(clinical AND (trial or study or studies)))	5313903	5589677	202113‡
	S3	(TI,AB(random*) OR TI,AB,IF(placebo*) OR TI,AB(double NEAR/1 blind*))	3178314	3312201	99754‡
	S4	(TI,AB(random*) OR TI,AB,IF(placebo*) OR TI,AB(sham))	3298384	3436335	102138‡
	S5	TI,AB("RCT")	67719	72498	2501†
	S6	(TI,AB(random*AND (trial or study or studies)))	13	15	0†
	S7	TI,AB(open-label)	135030	143420	5892‡
	S8	(TI,AB((singl* OR doubl* OR treb* or tripl*) NEAR/1 (blind[*3] OR mask[*3])))	441798	454322	9287‡
	S9	(TI,AB((singl* OR doubl* OR treb* or tripl*) NEAR/1 (blind[*3] OR mask[*3] OR dumm*)))	442172	454697	9292‡
	S10	(TI,AB(placebo[*1]) OR TI,AB("placebo controlled"))	558672	575377	12063‡
	S11	(TI,AB(random* NEAR/2 allocated))	79174	82605	1765†
	S12	(EMB.EXACT.EXPLODE("Clinical trial"))	1801505	1861451	42556‡
	S13	(EMB.EXACT("Controlled clinical trial"))	535073	535978	886†
	S14	(EMB.EXACT("Randomized controlled trial"))	710239	739870	20898‡
	S15	EMB.EXACT.EXPLODE("Randomization")	103491	105311	1327†
	S16	(EMB.EXACT("Single blind procedure"))	48070	50055	1478†
	S17	(EMB.EXACT("Double blind procedure"))	191852	198480	4304†
	S18	(EMB.EXACT("Crossover procedure"))	72092	74092	1312†
	S19	EMB.EXACT("Placebo")	411021	420968	6786‡
	S20	(EMB.EXACT("Triple blind procedure"))	335	361	22†
	S21	(EMB.EXACT("Multicenter study" OR "Phase 3 clinical trial" OR "Phase 4 clinical trial"))	356443	381062	17578‡
	S22	(EMB.EXACT("Prospective study"))	728300	776782	32299‡
	S23	(MESH.EXACT.EXPLODE("Randomized Controlled Trials as Topic" OR "Randomized Controlled Trial") OR MESH.EXACT.EXPLODE("Clinical Trials as Topic"))	360057	369952	3737†
	S24	(MESH.EXACT.EXPLODE("Random Allocation"))	105541	106530	128†
	S25	(MESH.EXACT.EXPLODE("Double-Blind Method"))	165561	169828	1767†
	S26	(MESH.EXACT.EXPLODE("Single-Blind Method"))	30453	31560	366†
	S27	MESH.EXACT.EXPLODE("Placebos")	38344	38969	143†
	S28	(MESH.EXACT.EXPLODE("Cross-Over Studies"))	50737	52714	733†
	S29	(MESH.EXACT.EXPLODE("Prospective Studies"))	583651	613716	14553‡

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
	S30	(RTYPE("Clinical trial, phase i"))	21869	23119	522†
	S31	(RTYPE("Clinical trial, phase ii"))	35227	36973	825†
	S32	(RTYPE("Clinical trial, phase iii"))	18630	19870	566†
	S33	(RTYPE("Clinical trial, phase iv"))	2129	2265	50†
	S34	(RTYPE("Controlled clinical trial"))	94268	94679	198†
	S35	(RTYPE("Randomized controlled trial"))	537848	560350	12008‡
	S36	(RTYPE("Multicenter study"))	298166	314412	6128‡
	S37	(RTYPE("Clinical trial"))	613493	623696	4373†
	S38	(RTYPE("Pragmatic Clinical Trial"))	1782	2016	63†
	S39	(EMB.EXACT.EXPLODE("controlled study"))	8587346	8971759	292655‡
	S40	(S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39)	15994795	16681333	502721‡
Observational study	S41	(TI,AB("Case control") OR TI,AB(case control NEAR/1 (study OR studies)))	321138	334884	9901‡
	S42	(Cohort NEAR/1 (study OR studies))	915164	937751	47144‡
	S43	(TI,AB(Cohort analys*))	773608	837166	48252‡
	S44	(TI,AB(Follow up NEAR/1 (study OR studies)))	144053	148548	2278†
	S45	(TI,AB(Observational NEAR/1 (study OR studies)))	380152	411718	23907‡
	S46	(TI,AB("Cross sectional") OR TI,AB(cross sectional NEAR/1 (study OR studies)))	931140	1000478	52440‡
	S47	(TI,AB(Epidemiologic[*1] NEAR/1 (study OR studies)))	64077	65254	557†
	S48	TI,AB(Longitudinal)	640183	675568	26670‡
	S49	TI,AB(Retrospective)	1597941	1706112	82759‡
	S50	(EMB.EXACT("Clinical study"))	311625	311183	1042†
	S51	(EMB.EXACT("Family study"))	45567	45386	62†
	S52	(EMB.EXACT("Longitudinal study"))	170261	180072	6555‡
	S53	(EMB.EXACT("Retrospective study"))	1119561	1219476	67976‡
	S54	(EMB.EXACT("Prospective study") NOT EMB.EXACT("Randomized controlled trials"))	728300	776782	32299‡
	S55	(EMB.EXACT("Cohort analysis"))	753098	831764	56388‡
	S56	(EMB.EXACT(“Case control study”))	189407	198892	5048‡
	S57	(EMB.EXACT(“Follow up”))	1855137	1945857	63094‡
	S58	(EMB.EXACT(“Observational study”))	254938	278048	15830‡
	S59	EMB.EXACT(“Epidemiology”)	1383964	1426844	20869‡
	S60	(EMB.EXACT(“Cross-sectional study”))	430622	472220	25010‡
	S61	(EMB.EXACT("Disease registry"))	16945	18170	762†
	S62	(MESH.EXACT("Epidemiologic studies"))	8730	8988	101†
	S63	(MESH.EXACT.EXPLODE("Case control studies"))	303839	316479	3356†
	S64	(MESH.EXACT.EXPLODE("Cohort studies"))	2168608	2290730	60730‡
	S65	(MESH.EXACT("Cross-sectional studies"))	375420	410133	17952‡
	S66	(MESH.EXACT(“Longitudinal Studies”))	147097	154860	3048†
	S67	(MESH.EXACT(“Retrospective Studies”))	917648	991638	39958‡

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
	S68	(MESH.EXACT("Prospective Studies"))	583651	613716	14553‡
	S69	(MESH.EXACT("Follow-Up Studies"))	665990	680697	3432†
	S70	(MESH("Observational Studies"))	6532	7445	390†
	S71	(S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70)	9624986	10089542	333806‡
RCT + Observational study	S72	(S40 OR S71)	20874134	21743446	637918‡
Population + RCT + Observational study	S73	(S1 AND S72)	5069	5366	215†
Interventions§	S74	ALL("corticosteroid" OR "desoximetasone" OR "clobetasol" OR "triamcinolone" OR "hydrocortisone" OR "intralesional steroid*" OR "systemic corticosteroid*" OR "prednisolone" OR "methylprednisolone" OR "dexamethasone" OR "Contact immunotherapy" OR "1-chloro,2,4,dinitrobenzene" OR "DNCB" OR "squaric acid dibutyl ester" OR "SADBE" OR "2,3-diphenylcyclopropenone" OR "DPCP" OR "photochemotherapy" OR "psoralen" OR "ultraviolet" OR "PUVA" OR "minoxidil" OR "dithranol" OR "anthralin" OR "Calcineurin inhibitor*" OR "ciclosporin" OR "tacrolimus" OR "latanoprost" OR "bimatoprost" OR "etanercept" OR "alefacept" OR "sulfasalazine" OR "methotrexate" OR "Isoprinosine" OR "laser" OR "aromatherapy" OR "hypnotherapy" OR "baricitinib" OR "tofacitinib" OR "ruxolitinib" OR "PF-06651600" OR "ritlecitinib" OR "CTP-543" OR "methotrexate" OR "cyclosporine" OR "azathioprine" OR "topical immunotherapy" OR "prednisone" OR "betamethasone" OR "glucocorticoid*" OR "topical corticosteroid*" OR "monoclonal antibody" OR "TNF inhibitor*" OR "anti-TNF" OR "biologic*" OR "Janus kinase inhibitor*" OR "JAK inhibitor*" OR "bexarotene" OR "pimecrolimus" OR "prostaglandin F2alpha" OR "diphencyprone" OR "308-nm" OR "excimer" OR "PDE4 inhibitor" OR "phosphodiesterase 4 inhibitor" OR "phosphodiesterase IV inhibitor" OR "mycophenolate mofetil" OR "ustekinumab" OR "Interleukin 17 inhibitor" OR "dapsone" OR "simvastatin" OR "ezetimibe" OR "sulfasalazine" OR "apremilast")	8530446	8776670	199482‡
	S75	(MESH.EXACT.EXPLODE("corticosteroid") OR (MESH.EXACT.EXPLODE("intralesional drug administration")) OR (MESH.EXACT.EXPLODE("Adrenal Cortex Hormones")) OR MESH.EXACT.EXPLODE("Immunotherapy") OR MESH.EXACT.EXPLODE("Photochemotherapy") OR (MESH.EXACT.EXPLODE("Calcineurin Inhibitors")) OR MESH.EXACT.EXPLODE("Aromatherapy") OR MESH.EXACT.EXPLODE("Hypnosis") OR (MESH.EXACT.EXPLODE("Biological Products")) OR (MESH.EXACT.EXPLODE("Antibodies, Monoclonal")) OR (MESH.EXACT.EXPLODE("Tumor Necrosis Factor Inhibitors")) OR	1545934	1599061	28475‡

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
		(MESH.EXACT.EXPLODE("Janus Kinase Inhibitors")) OR MESH.EXACT.EXPLODE("Dinoprost")) OR (MESH.EXACT.EXPLODE("Dinitrochlorobenzene") OR (MESH.EXACT.EXPLODE("PUVA Therapy")) OR MESH.EXACT.EXPLODE("Minoxidil") OR MESH.EXACT.EXPLODE("Anthralin") OR MESH.EXACT.EXPLODE("Cyclosporine") OR MESH.EXACT.EXPLODE("Tacrolimus") OR MESH.EXACT.EXPLODE("Latanoprost") OR MESH.EXACT.EXPLODE("Bimatoprost") OR MESH.EXACT.EXPLODE("Etanercept") OR MESH.EXACT.EXPLODE("Alefacept")) OR (MESH.EXACT.EXPLODE("Sulfasalazine") OR MESH.EXACT.EXPLODE("Methotrexate") OR (MESH.EXACT.EXPLODE("Inosine Pranobex")) OR (MESH.EXACT.EXPLODE("Lasers, Excimer")) OR MESH.EXACT.EXPLODE("Azathioprine") OR MESH.EXACT.EXPLODE("Glucocorticoids") OR MESH.EXACT.EXPLODE("Bexarotene") OR MESH.EXACT.EXPLODE("betamethasone") OR MESH.EXACT.EXPLODE("prednisone") OR MESH.EXACT.EXPLODE("clobetasol") OR MESH.EXACT.EXPLODE("triamcinolone") OR MESH.EXACT.EXPLODE("hydrocortisone") OR MESH.EXACT.EXPLODE("prednisolone") OR MESH.EXACT.EXPLODE("methylprednisolone") OR MESH.EXACT.EXPLODE("dexamethasone") OR (MESH.EXACT.EXPLODE("Phosphodiesterase 4 Inhibitors")) OR MESH.EXACT.EXPLODE("desoximetasone") OR MESH.EXACT.EXPLODE("Mycophenolic Acid") OR MESH.EXACT.EXPLODE("Ustekinumab") OR MESH.EXACT.EXPLODE("Dapsone") OR MESH.EXACT.EXPLODE("Simvastatin") OR MESH.EXACT.EXPLODE("Ezetimibe, Simvastatin Drug Combination") OR MESH.EXACT.EXPLODE("Ezetimibe") OR MESH.EXACT.EXPLODE("Sulfasalazine"))			
	S76	((EMB.EXACT.EXPLODE("Janus kinase inhibitor")) OR (EMB.EXACT.EXPLODE("calcineurin inhibitor")) OR (EMB.EXACT.EXPLODE("prostaglandin F2 alpha")) OR EMB.EXACT.EXPLODE("corticosteroid") OR (EMB.EXACT.EXPLODE("intralesional drug administration")) OR EMB.EXACT.EXPLODE("desoximetasone") OR EMB.EXACT.EXPLODE("immunotherapy") OR EMB.EXACT.EXPLODE("photochemotherapy") OR EMB.EXACT.EXPLODE("aromatherapy") OR EMB.EXACT.EXPLODE("hypnosis") OR (EMB.EXACT.EXPLODE("biological product")) OR (EMB.EXACT.EXPLODE("monoclonal antibody")) OR (EMB.EXACT.EXPLODE("clobetasol propionate")) OR EMB.EXACT.EXPLODE("triamcinolone") OR (EMB.EXACT.EXPLODE("hydrocortisone acetate")) OR EMB.EXACT.EXPLODE("prednisolone") OR EMB.EXACT.EXPLODE("methylprednisolone") OR EMB.EXACT.EXPLODE("dexamethasone") OR (EMB.EXACT.EXPLODE("1 chloro 2,4 dinitrobenzene")) OR (EMB.EXACT.EXPLODE("squaric acid dibutyl	2878504	2995170	73909‡

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
		ester")) OR EMB.EXACT.EXPLODE("diphencyprone") OR EMB.EXACT.EXPLODE("PUVA") OR EMB.EXACT.EXPLODE("minoxidil") OR EMB.EXACT.EXPLODE("dithranol") OR EMB.EXACT.EXPLODE("cyclosporine") OR EMB.EXACT.EXPLODE("tacrolimus") OR EMB.EXACT.EXPLODE("latanoprost") OR EMB.EXACT.EXPLODE("bimatoprost") OR EMB.EXACT.EXPLODE("etanercept") OR EMB.EXACT.EXPLODE("alefacept") OR EMB.EXACT.EXPLODE("salazosulfapyridine") OR EMB.EXACT.EXPLODE("methotrexate") OR EMB.EXACT.EXPLODE("methisoprinol") OR (EMB.EXACT.EXPLODE("excimer laser")) OR EMB.EXACT.EXPLODE("baricitinib") OR EMB.EXACT.EXPLODE("tofacitinib") OR EMB.EXACT.EXPLODE("ruxolitinib") OR EMB.EXACT.EXPLODE("ritlecitinib") OR EMB.EXACT.EXPLODE("deuruxolitinib") OR EMB.EXACT.EXPLODE("azathioprine") OR EMB.EXACT.EXPLODE("prednisone") OR EMB.EXACT.EXPLODE("betamethasone") OR EMB.EXACT.EXPLODE("glucocorticoid") OR (EMB.EXACT.EXPLODE("tumor necrosis factor inhibitor")) OR EMB.EXACT.EXPLODE("bexarotene") OR EMB.EXACT.EXPLODE("pimecrolimus") OR (EMB.EXACT.EXPLODE("prostaglandin F2 alpha")) OR (EMB.EXACT.EXPLODE("phosphodiesterase IV inhibitor")) OR EMB.EXACT.EXPLODE("mycophenolate mofetil") OR EMB.EXACT.EXPLODE("ustekinumab") OR EMB.EXACT.EXPLODE("interleukin 17 antibody") OR EMB.EXACT.EXPLODE("dapsone") OR EMB.EXACT("ezetimibe plus simvastatin") OR EMB.EXACT("simvastatin") OR EMB.EXACT("ezetimibe") OR EMB.EXACT.EXPLODE("salazosulfapyridine") OR EMB.EXACT.EXPLODE("apremilast"))			
	S77	S74 OR S75 OR S76	10578374	10911782	251037‡
Population+ RCT+ Observational study+ Interventions	S78	S73 AND S77	2386	2490	115†
Study/ publication type filter	S79	TI,AB(case NEAR/1 (stud* OR report))	1871483	1952710	57040‡
	S80	EMB.EXACT("Case study")	135971	139569	3438†
	S81	(EMB.EXACT("Abstract report" OR "Letter"))	1203694	1228607	18585‡
	S82	(RTYPE("Case reports"))	2191036	2244597	30031‡
	S83	RTYPE("Letter")	2323083	2380574	41247‡
	S84	(RTYPE("Historical article"))	364297	367500	516†
	S85	(PSTYPE("Conference proceedings") AND PD(1900-2018))	4328	4328	0†
	S86	(RTYPE("Conference abstract") AND PD(1900-2018))	3394136	3398044	0†
	S87	RTYPE("Editorial")	1269215	1312862	31404‡
	S88	RTYPE("Note")	856590	883251	15665‡

Topic	Set	Searched for	Number of hits		
			Original SLR	First update	Second update
	S89	S79 OR S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88	11565897	11810509	161601‡
(Population+ RCT+ Observational study+ Interventions) minus filtered studies	S90	(S78 NOT S89)	1395†	1859	84†
Study/ publication filter excluding letters	S91	S88 OR S87 OR S86 OR S85 OR S84 OR S82 OR S80 OR S79	NA	9581330	122004‡
	S92	(S78 NOT S91)	NA	2037	111†,^
Letters from inception	S93	(S92 NOT S90)	NA	158†	14†
Update from July 1, 2021	S94	(S90) and (pd(>20210701))	NA	92†	84†
	S95	S94 OR S93	NA	250†	111†,^

† Duplicates are removed from the search and from the result count.
‡ Duplicates are removed from the search but included in the result count.
§ List of interventions are based on the consensus studies and guidelines [1-4].
NA, not applicable; SLR, systematic literature review.

B. Cochrane (CENTRAL and CDSR)

Topic	Set	Terms	Number of hits		
			Original SLR	First update	Second update
Population	1	MeSH descriptor: [Alopecia Areata] this term only	286	309	354
	2	("alopecia areata" OR "alopecia universalis" OR "alopecia totalis" OR "alopecia circumscripta" OR "alopecia ophiasis"):ti,ab,kw	554	589	687
	3	#1 OR #2	554	589	687
Intervention†	4	("corticosteroid" OR "desoximetasone" OR "clobetasol" OR "triamcinolone" OR "hydrocortisone" OR "intralesional steroid*" OR "systemic corticosteroid*" OR "prednisolone" OR "methylprednisolone" OR "dexamethasone" OR "Contact immunotherapy" OR "1-chloro,2,4,dinitrobenzene" OR "DNCB" OR "squaric acid dibutyl ester" OR "SADBE" OR "2,3-diphenylcyclopropenone" OR "DPCP" OR "photochemotherapy" OR "psoralen" OR "ultraviolet" OR "PUVA" OR "minoxidil" OR "dithranol" OR "anthralin" OR "Calcineurin inhibitor*" OR "ciclosporin" OR "tacrolimus" OR "latanoprost" OR "bimatoprost" OR "etanercept" OR "alefacept" OR "sulfasalazine" OR "methotrexate" OR "Isoprinosine" OR "laser" OR "aromatherapy" OR "hypnotherapy" OR "baricitinib" OR "tofacitinib" OR "ruxolitinib" OR "PF-06651600" OR "ritlecitinib" OR "CTP-543" OR "methotrexate" OR "cyclosporine" OR "azathioprin"e OR "topical immunotherapy" OR "prednisone" OR "betamethasone" OR "glucocorticoid*" OR "topical corticosteroid*" OR "monoclonal antibody" OR "TNF inhibitor*" OR "anti-TNF" OR "biologic*" OR "Janus kinase inhibitor*" OR "JAK inhibitor*" OR "bexarotene" OR "pimecrolimus" OR "prostaglandin F2alpha" OR "diphencyprone" OR "308-nm" OR "excimer" OR "PDE4 inhibitor" OR "phosphodiesterase 4 inhibitor" OR "phosphodiesterase IV inhibitor" OR “mycophenolate mofetil” OR “ustekinumab” OR “Interleukin 17 inhibitor” OR “dapsone” OR “simvastatin” OR “ezetimibe” OR “sulfasalazine” OR “apremilast”):ti,ab,kw	236451	247398	504909
	5	#3 AND #4 in Cochrane Reviews, Trials	347	371	473
	6	#5 with Cochrane Library publication date Between Jul 2021 and Feb 2022	NA	23	NA
	7	#5 with Cochrane Library publication date Between Feb 2022 and Jul 2022	NA	NA	27

† List of interventions are based on the consensus studies and guidelines [1-4]. The search term for azathioprine included an error that was used in the first three search iterations and removed for the fourth iteration of the search. This error generated additional results over those expected and did not cause any relevant items to be missed but may have caused adjudication of more items than necessary.

CDSR, Cochrane Database of Systematic Reviews; NA, not applicable; SLR, systematic literature review.

C. Clinicaltrials.gov portal

Topic	Set	Terms	Number of hits
Population	1	"alopecia areata" OR "alopecia universalis" OR "alopecia totalis" OR "alopecia circumscripta" OR "alopecia ophiasis"	372
Applying Filter	2	Recruiting OR Not yet recruiting OR Active, not recruiting OR Enrolling by invitation Studies	90

D. World Health Organization International Clinical Trials Register

Topic	Set	Terms	Number of hits
Population	1	"alopecia areata" OR "alopecia universalis" OR "alopecia totalis" OR "alopecia circumscripta" OR "alopecia ophiasis"	170

E. European Union Clinical Trials Register

Topic	Set	Terms	Number of hits
Population	1	"alopecia areata" OR "alopecia universalis" OR "alopecia totalis" OR "alopecia circumscripta" OR "alopecia ophiasis"	9†

† Trials with EudraCT protocol

F. Hand-search of conference abstracts

Conference Name	Year (link)	Search term	Results
American Academy of Dermatology	2021	"alopecia areata"	0 included from 18
	2022		5 included from 29
Annual Alopecia Areata Conference (National Alopecia Areata Foundation)	2019		Not available
	2020		Not available
	2021		Not available
	2022		Not available
British Association of Dermatologists	2021		0 included from 5
	2022		0 included from 19
European Academy of Dermatology and Venereology Congress	2019		Not available
	2020		0 included from 19
	2021		Not available
European Society for Dermatological Research	2019		0 included from 6
	2020		Not available
	2021		0 included from 3
Society of Investigative Dermatology	2021		0 included from 20
	2022		0 included from 15

G. Hand-search of HTA and other websites

HTA and other websites	Search term	Results
Scottish Medicines Consortium (SMC)	"alopecia areata"	0
National Institute for Health and Care Excellence (NICE)		0 included from 5

HTA and other websites	Search term	Results
Haute Autorité de santé (HAS)		0
Canadian Agency for Drugs and Technologies in Health (CADTH)		0
Pharmaceutical Benefits Advisory Committee (PBAC)		0 included from 21
Institute for Clinical and Economic Review (ICER)		0
United States (US) Food and Drug Administration (FDA) Register[†]		0 included from 108[‡]
International Pharmaceutical abstracts (published by Web of Science)[†]		187[§]

[†] Not included in the PRISMA because not able to download for screening.
[‡] Not relevant to alopecia areata (AA) or AA treatment.
[§] Payment required for access.
HTA, health technology assessment or agency; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Table S2. Summary of category 3 studies (included in the SLR but not extracted)

Study	Title	Study design	Sample size	Population	Summary
Abdallah et al. [5]	Efficacy of intradermal minoxidil 5% injections for treatment of patchy non-severe alopecia areata	RCT, intra-patient	20	Adults with AA and <50% scalp hair loss	Baseline SALT ranged from 7.5–48.4%; minoxidil had an effect comparable to control (micro-needling) and no additive effect when combined with intralesional triamcinolone
Açikgöz et al. [6]	Targeted photochemotherapy in alopecia areata	Retrospective chart review	7	Adults, localized AA (patchy)	All patients had a cosmetically acceptable regrowth (not further defined)
Alkeraye et al. [7]	Efficacy of combining pulse corticotherapy and methotrexate in alopecia areata: Real-life evaluation	Prospective, uncontrolled	20	Adults, recent onset AA; most patients with extent of hair loss not defined	25% patchy, 45% ophiasis, 10% AT, 20% AU. At the 6-month post-PCT follow-up visit, 9 of 14 patients in the combined treatment group and 2 of the 6 patients in the PCT group had achieved >50% scalp hair regrowth. No AEs were reported
Balakrishnan et al. [8]	A comparative study of therapeutic response to intralesional injections of platelet-rich plasma versus triamcinolone acetonide in alopecia areata	RCT	Triamcinolone 20 PRP 20	Adults Patchy AA of the scalp (≤5 patches)	SALT <7 and <4 at baseline for PRP and triamcinolone, respectively. No significant difference was observed between the groups at week 12
Bayramgürler 2011 [9]	Narrowband ultraviolet B phototherapy for alopecia areata	Retrospective chart review	25	AA and >50% scalp hair loss	Eight patients received concomitant systemic corticosteroid injections. Four of the 6 patients who achieved excellent response had received corticosteroids
Byun et al. [10]	Effectiveness of 308-nm Excimer Laser Therapy in Treating Alopecia Areata, Determined by Examining the Treated Sides of Selected Alopecic Patches	Prospective, intra-patient	10	Adults with AA and <20% scalp hair loss	Only the hair diameter in the treated half of individual patches was significantly increased vs control side
Devi et al. [11]	Intralesional triamcinolone acetonide versus topical betamethasone valearate in the management of localized alopecia areata	RCT	Triamcinolone 113 Betamethasone 113	Adults with localized AA (<3 patches)	Baseline: 76.1% with single patch in each arm. Hair regrowth (not defined) was observed in 84 and 53 patients in the triamcinolone and betamethasone groups respectively
El-Husseiny et al. [12]	Comparative study between fractional carbon dioxide laser vs intralesional steroid injection in treatment of alopecia areata	Prospective, intra-patient	20	Adults with patchy AA (≥2 patches)	Baseline SALT not provided. Median improvement of patch treated with laser reported higher than for steroid at month 3

Study	Title	Study design	Sample size	Population	Summary
El Khoury et al. [13]	Topical immunomodulation with diphenylcyclopropenone for alopecia areata: the Lebanese experience	Retrospective chart review	34	Patients with patchy AA, AT, AU	20 with patchy AA (no SALT provided), 4 with AT and 10 with AU; 39% scalp hair loss at baseline. 27 patients achieved a partial response to DPCP, of whom 10 relapsed
El-Taweel & Akl [14]	Intralesional pentoxifylline injection in localized alopecia areata	RCT	Triamcinolone 25 Pentoxifylline 25 Combination 25	Adults with AA and <50% scalp hair loss	The highest response was reported in the combination group, followed by pentoxifylline and triamcinolone
Fiedler-Weiss [15]	Topical minoxidil solution (1% and 5%) in the treatment of alopecia areata	2 studies: Minoxidil 1%: single arm Minoxidil 5%: RCT vs. PBO 12 weeks, then single arm	66 patients (26 participating in both studies) Minoxidil 1% 48 (single arm only) Minoxidil 5% 26 PBO 21	Adults with Mild to severe scalp AA	Minoxidil 1%: baseline hair loss <25% in 24 patients; 75–100% in 24 patients. 11 cosmetic responders after 30 weeks Minoxidil 5%: baseline hair loss 25–74% in 11 and 75–100 in 36 patients. Six cosmetic responders after 60 weeks
Georgala et al. [16]	Inosiplex for treatment of alopecia areata: A randomized placebo-controlled study	RCT vs. PBO	Inosiplex 16 PBO 16	Adults with recalcitrant patchy AA, ophiasis or AT (not defined further)	Baseline SALT not reported; 21 patchy AA, 9 ophiasis, 2 AT; 3 patients discontinued. At week 12, complete hair growth in 5 and 0 patients and partial hair growth in 8 and 4 patients in the inosiplex and PBO arms, respectively ($p<0.01$ for response)
Giorgio et al. [17]	Combination of photodynamic therapy (PDT) with 5-aminolaevulinic acid and microneedling (MN) in the treatment of alopecia areata resistant to conventional therapies: our experience with 41 patients	RCT	MN 9 PDT 15 MN+PDT 17	Adults with moderate to severe AA (not defined further)	No data on baseline hair loss. No patients responded to MN; 2 PDT and 3 PDT+MN with 100% hair regrowth
Gupta et al. [18]	Comparative evaluation of efficacy between topical calcipotriol used along with topical clobetasol and topical clobetasol monotherapy in treatment of alopecia areata: A randomized clinical trial	RCT	A) Clobetasol 30 B) Clobetasol and Calcipotriol 30	Adults with patchy AA and <50% scalp hair loss	Baseline SALT score was 10.45 and 9.85 in group A and B, respectively ($p=0.65$). At week 24, SALT score significantly decreased in both groups to 5.98 and 3.66 in group A and B, respectively ($p<0.05$ between treatments)
Gupta et al. [19]	Weekly azathioprine pulse (WAP) versus betamethasone oral mini-pulse in the treatment of moderate-to-severe alopecia areata	RCT	WAP 25 Betamethasone 25	Adults with AA and ≥10% scalp hair loss (AU excluded)	Baseline SALT (14–58) (WAP) and (14–55) (betamethasone). At month 9, 10 on WAP and13 on betamethasone achieved complete hair regrowth
Guttman-Yassky et al. [20]	Phase 2a randomized clinical trial of dupilumab (anti-IL-4Rα) for alopecia areata patients	RCT vs. PBO	Dupilumab 40 PBO 20	Adults with AA and ≥30% scalp hair loss	50% of patients on dupilumab had a SALT<75 at baseline vs. 40% in the PBO arm. At week 24, the improvement in SALT

Study	Title	Study design	Sample size	Population	Summary
					from baseline in the dupilumab group was significantly greater vs. PBO (p=0.049).
Hamdino et al. [21]	Intralesional methotrexate (MTX) versus triamcinolone acetonide (TRA) for localized alopecia areata treatment: A randomized clinical trial	RCT	MTX 20 TRA 20	Adults with AA and <50% scalp hair loss	Patchy AA; range SALT 1.2–8.4 and 1.2–14.3 in the MTX and TRA groups, respectively. At month 3, 12, and 10 patients with a SALT 0 with MTX and TRA, respectively
Hay et al. [22]	Randomized trial of aromatherapy. Successful treatment for alopecia areata	RCT vs. PBO	Aromatherapy 43 PBO 41	AA; hair loss severity not defined	No data on baseline hair loss. 19 and 6 patients with ≥10% scalp hair regrowth at month 7 with aromatherapy and PBO, respectively (p=0.008)
Jalali et al. [23]	Comparing the efficiency of elidel cream and elidel accompanied with tretinoin cream in treatment of alopecia areata	RCT	(A) Topical tretinoin and Elidel 40 B) Elidel 40	Adults with patchy AA (≤4 patches)	Baseline mean number of patches was 2.4 and 2.8 in group A and B, respectively (p=0.88). 31 and 22 patients reported complete or partial response in group A and B, respectively (p=0.03)
Kapoor et al. [24]	Comparative evaluation of therapeutic efficacy of intralesional injection of triamcinolone acetonide (TRA) versus intralesional autologous platelet-rich plasma (PRP) injection in alopecia areata	RCT	A) TRA 20 B) PRP 20	Adults with AA and <25% scalp hair loss	Baseline mean SALT of 9.01 and 4.42 in group A and B, respectively. At week 24, SALT was 2.27 and 3.07 in group A and B, respectively (p<0.001)
Kerkemeyer & Sinclair [25]	Treatment of chronic alopecia areata with tildrakizumab: an open-label pilot study	Prospective, uncontrolled	9	Patients with moderate to severe AA (SALT >35)	Baseline SALT from 38 to 100. Two patients had a partial response, and 7 patients had no regrowth.
Kianfar et al. [26]	Comparison of the efficacy and safety of 308-nm excimer laser with intralesional corticosteroids for the treatment of alopecia areata: A randomized controlled study	RCT, intra-patient	16	Adult with AA and ≥2 patches	Baseline: 14 with patchy AA and 2 with ophiasis. Intralesional corticosteroid was associated with a higher score of hair regrowth vs. laser
Lai et al. [27]	Sublingual tofacitinib for alopecia areata: A roll-over pilot clinical trial of efficacy	Prospective, uncontrolled	18	Adults with moderate to severe AA	At baseline, 5 with patchy AA, 6 with AT, 7 with AU. At week 12, 12.5% of patients on sublingual tofacitinib achieved $SALT_{50}$
Lattouf et al. [28]	Treatment of alopecia areata with simvastatin/ezetimibe	Prospective, uncontrolled	29	Adults with AA and 40–70% scalp hair loss	Baseline hair loss not reported. 19 completed 24 weeks of treatment with 14 responders (i.e., >20% hair regrowth)

Study	Title	Study design	Sample size	Population	Summary
Li et al. [29]	Efficacy and Influence Factors of 308-nm Excimer Lamp with Minoxidil in the Treatment of Alopecia Areata	Intra-patient controlled	38	Adults with AA and <25% scalp hair loss	34 patients completed the study; 44.1% with >50% hair regrowth on the treated side and 23.5% with >50% hair regrowth on the control side
Lim et al. [30]	Low-dose systemic methotrexate therapy for recalcitrant alopecia areata	Retrospective chart review	29	Recalcitrant AA (not defined further)	23 patients with 25–49% scalp hair loss, 6 with ≥50% hair loss. 26 patients achieved ≥75% hair regrowth
Mancuso et al. [31]	Efficacy of betamethasone valerate foam (BVF) formulation in comparison with betamethasone dipropionate (BDP) lotion in the treatment of mild-to-moderate alopecia areata: a multicenter, prospective, randomized, controlled, investigator-blinded trial	RCT	BVF 31 BDP 30	Adults with AA and <26% scalp hair loss	Mean scalp hair loss at baseline <10%. At week 20, 19 patients in the BVF group and 8 in the BDP group had >75% hair regrowth
Metwally et al. [32]	Comparative study for treatment of alopecia areata using carboxy therapy, intralesional corticosteroids, and a combination of both	RCT, intra-patient	30, each patient receiving A) intralesional steroids B) intralesional carboxy therapy C) combination	Adults with AA and ≤50% scalp hair loss	Baseline mean SALT 10.91, 10.96, and 11.33 in group A, B, and C, respectively. At week 12, mean SALT was 8.11, 7.55, and 6.96 in group A, B, and C, respectively
Mikhaylov et al. [33]	A randomized placebo-controlled single-center pilot study of the safety and efficacy of apremilast in subjects with moderate-to-severe alopecia areata	RCT vs. PBO	Apremilast 20 PBO 10	Adults with AA and >50% scalp hair loss	Baseline mean SALT 88 and 87.7 in the apremilast and PBO group, respectively. One patient in each group reached $SALT_{50}$ at week 24
Molinelli et al. [34]	Efficacy and safety of topical calcipotriol 0.005% versus topical clobetasol 0.05% in the management of alopecia areata: An intrasubject pilot study	Prospective, intra-patient controlled	35, each patient receiving topical calcipotriol / topical clobetasol	Adults with patchy, mild-to-moderate scalp AA	Baseline: 24 with 11–50% hair loss, 11 with 51–75% hair loss. No difference in terms of regrowth between the 2 interventions: >75% hair regrowth in 22 and 16 patients at calcipotriol- and clobetasol-treated sites
Napolitano et al. [35]	Clinical, trichoscopic and in vivo reflectance confocal microscopy evaluation of alopecia areata in atopic dermatitis patients treated with dupilumab	Retrospective chart review	Dupilumab 10	Adults with atopic dermatitis and AA	At baseline, 2 with multifocal AA, 5 with AT and 3 with AU; mean baseline SALT was 91.6 (±12.4). No significant trend in SALT after 52 weeks of treatment
Narahari [36]	Comparative efficacy of topical anthralin and intralesional triamcinolone	RCT	Anthralin 50 TRA 50	Adults with AA and a single	Baseline severity not shown; only 69 patients analyzed. Complete regrowth was observed in 18/37 on TRA and 20/32 on anthralin

Study	Title	Study design	Sample size	Population	Summary
	(TRA) in the treatment of alopecia areata			lesion on the scalp	
Ochoa et al. [37]	Instilled bimatoprost ophthalmic solution in patients with eyelash alopecia areata	Prospective, intra-patient controlled	11	Adults with AA and ≥50% bilateral eyelash loss	Bimatoprost ophthalmic solution was not effective in promoting eyelash growth in the 5 patients with 95–100% eyelash loss at baseline
Ohtsuki et al. [38]	308-nm excimer lamp for the treatment of alopecia areata: Clinical trial on 16 cases	Prospective, uncontrolled	16	Adults with AA; single or multiple lesions (not defined further)	Seven patients had a single AA patch and 9 multiple AA lesions. 10 (4 and 6, respectively) patients had >50% regrowth.
Olsen et al. [39]	Ruxolitinib cream for the treatment of patients with alopecia areata: A 2-part, double-blind, randomized, vehicle-controlled phase 2 study	Part A – Prospective, uncontrolled Part B – RCT vs. PBO	Part A 12 Part B Ruxo 39 PBO 39	Adults Part A: SALT 25–99 Part B: SALT 25–99 and up to 10% AT or AU	Part A: mean SALT 56.2; 83.3% patchy AA. Six patients with $SALT_{50}$ at week 24 Part B: mean SALT 59 and 59.9 in PBO and Ruxo arms, respectively. Five patients with $SALT_{50}$ at week 24 in each arm
Park et al. [40]	Topical tacrolimus (FK506): Treatment failure in four cases of alopecia universalis	Prospective, uncontrolled	4	AU	Four patients with AU. No evidence of hair regrowth after 3 months
Price et al. [41]	Subcutaneous efalizumab is not effective in the treatment of alopecia areata	RCT vs. PBO	Efalizumab 37 PBO 25	Adults with AA (moderate-severe) AU excluded	No statistical differences between treatment groups in % hair regrowth after 12 or 24 weeks
Rafati et al. [42]	The effect of latanoprost 0.005% solution in the management of scalp alopecia areata, a randomized double-blind placebo-controlled trial	RCT vs. PBO	Latanoprost 12 PBO 12 (all patients on clobetasol 0.05%)	Adults with patchy AA	Baseline SALT was 1.3 for latanoprost group and 1.7 for control group. Reduction in SALT was inconsistent between the groups
Ricar et al. [43]	Topical bimatoprost in the treatment of eyelash loss in alopecia totalis and universalis: A prospective, open-label study	Prospective, uncontrolled	17 at start 16 completers	Adults with ≥90% bilateral eyelash loss	No new eyelash growth at a mean follow-up of 30.6 weeks
Rigopoulos et al. [44]	Lack of response of alopecia areata to pimecrolimus cream	Intra-patient controlled	15	AA affecting 10–25% of the scalp	No significant response to pimecrolimus cream 1% for any patient
Sanga [45]	Comparative study of efficacy of excimer light therapy vs. intralesional triamcinolone (TRA) vs. topical 5% minoxidil for alopecia areata: An observational study	Prospective	Excimer light 40 TRA 46 Minoxidil 14	AA, 1–6 patches (AT/AU excluded)	Baseline 76/100 with a single patch. At 6 months, the percentage of patients with >50% hair regrowth was 55%, 71.7%, and 28.6% with excimer light, TRA, and minoxidil, respectively

Study	Title	Study design	Sample size	Population	Summary
Singla et al. [46]	Comparative efficacy of topical DNCB and puvasol therapy in alopecia areata	Prospective	DNCB 25 PUVASOL 25	AA No information on severity	No information on baseline severity of hair loss. At 4 months, 13 and 15 patients had >50% hair regrowth in the DNCB and PUVASOL arms, respectively
Sirichotiyakul et al. [47]	UV308 excimer lamp phototherapy for the treatment of alopecia areata: A randomized, self-controlled study	RCT, intra-patient	4	Adults with single-patch AA	Greater hair regrowth was observed on the irradiated half of the patch vs. the untreated half after 12 weeks of treatment
Strober et al. [48]	Alefacept for severe alopecia areata: a randomized, double-blind, placebo-controlled study	RCT vs. PBO	Alefacept 23 PBO 22	Adults with AA and 50–95% scalp hair loss	Baseline mean SALT 71.1 and 67 in alefacept and PBO arms, respectively. At week 24, 1, and 3 patients with $SALT_{50}$ in alefacept and PBO arms, respectively
Suchonwanit et al. [49]	A comparison of the efficacy and tolerability of three corticosteroid treatment regimens in patients with alopecia areata	Retrospective Chart Review	Topical steroids 38 Intralesional steroids 24 Combination 86	Patchy AA	Baseline: 146/148 with SALT<25. No difference in significant hair regrowth (≥80%) between the 3 groups
Tanakol et al. [50]	Treatment of alopecia areata with 2940-nm fractional erbium: yttrium-aluminium-garnet laser	Prospective, uncontrolled	25	Adults with AA	AA (18), and AU (7); no SALT at baseline. 62.5% patchy AA with $SALT_{50}$; no AU with $SALT_{50}$
Taylor & Hawk [51]	PUVA treatment of alopecia areata partialis, totalis and universalis: Audit of 10'years' experience at S' John's Institute of Dermatology	Retrospective chart review	70	Adults with AA (patchy, AT, AU)	24 AA, 11 AT and 35 AU; 16 patients excluded (<24 treatments). Reported rate of success (≥90% hair regrowth) was 6.3% for AA, 12.5% for AT and 13.3% for AU
Toma et al. [52]	Comparative study between topical methotrexate 1% gel and minoxidil 5% gel in the treatment of localized alopecia areata	RCT	MTX 25 Minoxidil 25	Adults with localized AA	Baseline severity not reported. Comparison was not significant after 12 weeks of treatment
Tosti et al. [53]	Clobetasol propionate 0.05% under occlusion in the treatment of alopecia totalis/universalis	Prospective, uncontrolled	28	Adults with AT or AT/AU	Eight with >75% scalp hair regrowth at 6 months; 3 of 8 relapsed on treatment
Tosti et al. [54]	Efficacy and safety of a new clobetasol propionate 0.05% foam in alopecia areata: A randomized, double-blind placebo-controlled trial	RCT vs. PBO Intra-patient	34	Adults moderate to severe AA	At baseline, 65% with >50% scalp hair loss. At week 24, 9% of patients had a hair regrowth ≥75%
Ustuner et al. [55]	Best dilution of the best corticosteroid for intralesional injection in the treatment of localized alopecia areata in adults	RCT	83 patients / 231 patches Betamethasone dipropionate (3 groups)	Adults with AA and <50% scalp hair loss	Baseline SALT not provided. Results at month 6 were similar between the active groups

Study	Title	Study design	Sample size	Population	Summary
			Triamcinolone (3 groups) Saline group		
Vestey & Savin [56]	A trial of 1% minoxidil used topically for severe alopecia areata	RCT vs. PBO	Minoxidil 25 PBO 25	AA	Patchy (>2/3 of scalp hair loss) (N=11); ophiasis (N=6); AT/AU (N=33). No significant difference in response between PBO and minoxidil
Weber et al. [57]	Apremilast for extensive and treatment-resistant alopecia areata: a retrospective analysis of five patients	Retrospective chart review	5	Adults with AA	Baseline: 2 subtotal AA, 1 AU, 2 ophiasis. One subject responded then relapsed.
White & Friedmann [58]	Topical minoxidil lacks efficacy in alopecia areata.	RCT vs. PBO Crossover	15	Adults with AT	Grade 3 response (minimal growth of terminal hair) in 3/8 patients on minoxidil 3% at week 16 vs. none in the PBO group
Whitmont & Cooper [59]	PUVA treatment of alopecia areata totalis and universalis: a retrospective study	Retrospective Chart Review	36	Adults with AA, and AT (total or near total hair loss) and AU	26 with follow up. 8/15 with AT and 6/11 with AU achieved a >90% hair regrowth; 1/8 and 2/6 complete responders relapsed
Willemsen et al. [60]	Hypnosis in refractory alopecia areata significantly improves depression, anxiety, and life quality but not hair regrowth	Observational study (Prospective)	Hypnosis 20 Control 21	Adults with AA and >30% scalp hair loss	Majority of patients with >75% hair loss at baseline. At 6 months, 8 patients with <50% hair regrowth (group not mentioned)
Zaher et al. [61]	Bimatoprost versus mometasone furoate in the treatment of scalp alopecia areata: A pilot study	RCT, intra-patient	30	Adults with AA and ≤25% scalp hair loss	Baseline SALT ranged from 0.9 to 16.8%. 17/30 patches responded to TCS and 25/30 patches responded to topical bimatoprost

Category 3 included records with data from adults with mostly mild-to-moderate forms of AA, or severity of hair loss at baseline not documented; records of studies assessing interventions that did not fall into category 1 or 2 (i.e., not recommended, or recommended in mild forms of AA, or as adjunctive therapy only).

AA, alopecia areata; AE, adverse event; AT, alopecia totalis; AU, alopecia universalis; BD, betamethasone; BDP, betamethasone dipropionate lotion; BVF, betamethasone valerate foam; cm, centimeter; DPCP, diphenylcyclopropenone; DNCB, dinitrobenzene; ILK, intralesional kenalog; MN, microneedling, MTX, methotrexate; NAHRS, North American Hair Research Society; NB, narrow band; PBO, placebo; PCT, pulse corticotherapy; PDT, photodynamic therapy; PRP, platelet-rich plasma; PUVA, psoralen plus artificial phototherapy; PUVASOL, psoralen plus solar irradiation; PTX, pentoxifylline; QD, once a day; RCT, randomized controlled trial; Ruxo, ruxocitinib; SALT, severity of alopecia tool; TA, triamcinolone acetonide.

Table S3. Critical appraisal of included fully published non-randomized trials

Study	What is the study design of this study?	Was the study a prospective study or a retrospective study?	In case of a case-control study, were the groups similar at the outset of the study in terms of prognostic factors?	Was the intervention used appropriately?	Were the outcomes measured in the study reliable?	Were the outcomes measures in the study valid?	Was the statistical analysis conducted appropriately in the study?	Was the quality of reporting appropriate in the study?	Can the study results be generalized to routine practice?
AlMarzoug et al. [62]	Cohort Study	Prospective	NA	Yes	Yes	Yes	Yes	No	Yes
Alsufyani et al. [63]	Cohort study	Retrospective	NA	Yes	Unclear	Yes	Unclear	No	Unclear
Avgerinou et al. [64]	Cohort study	Prospective	NA	Yes	Yes	Yes	Unclear	Unclear	No
Case et al. [65]	Cohort study	Prospective	NA	Unclear	Unclear	Yes	Unclear	No	No
Chen et al. [66]	Case series	Prospective	NA	Unclear	Yes	Yes	Yes	Yes	Unclear
Cheng et al. [67]	Case series	Retrospective	NA	Yes	Unclear	Yes	Unclear	Yes	Unclear
Cotellessa et al. [68]	Cohort study	Prospective	NA	Yes	Yes	Yes	Unclear	No	Unclear
Dehghan et al. [69]	Cohort study	Prospective	NA	Yes	Unclear	Unclear	Yes	No	Unclear
Dincer Rota et al. [70]	Case series	Retrospective	NA	Yes	Unclear	Yes	Unclear	Yes	Unclear
English & Heinisch [71]	Cohort study	Retrospective	NA	Yes	Unclear	Yes	Unclear	No	Unclear
Ferrando & Grimalt [72]	Case series	Prospective	NA	Yes	Unclear	Unclear	Unclear	Unclear	Unclear
Firooz & Fouladi [73]	Case series	Prospective	NA	Yes	Unclear	Yes	Unclear	No	Unclear
Gupta et al. [74]	Case series	Prospective	NA	Yes	Unclear	Unclear	Yes	Yes	Unclear
Hogan et al. [75]	Case series	Retrospective	NA	Yes	Yes	Yes	Unclear	No	Unclear
Hull & Morris [76]	Case series	Prospective	NA	Yes	Unclear	Yes	Unclear	No	Unclear
Ibrahim et al. [77]	Case series	Retrospective	NA	Yes	Yes	Yes	Unclear	Yes	Unclear
Jabbari et al. [78]	Cohort study	Prospective	NA	Yes	Yes	Yes	Unclear	No	Unclear
Jang et al. [79]	Cohort study	Retrospective	NA	Yes	Unclear	Yes	Unclear	Yes	Yes
Joly [80]	Cohort study	Retrospective	NA	Yes	No	Unclear	Unclear	No	Unclear
Kennedy Crispin et al. [81]	Cohort study	Retrospective	NA	Yes	Yes	Yes	Yes	Yes	Yes

Study	What is the study design of this study?	Was the study a prospective study or a retrospective study?	In case of a case-control study, were the groups similar at the outset of the study in terms of prognostic factors?	Was the intervention used appropriately?	Were the outcomes measured in the study reliable?	Were the outcomes measures in the study valid?	Was the statistical analysis conducted appropriately in the study?	Was the quality of reporting appropriate in the study?	Can the study results be generalized to routine practice?
Kerkemeyer et al. [82]	Case series	Retrospective	NA	Yes	Yes	Yes	Unclear	Unclear	No
Kurosawa et al. [83]	Cohort study	Retrospective	NA	Unclear	Yes	Yes	Yes	Yes	Unclear
Liu et al. [84]	Cohort study	Retrospective	NA	Yes	Yes	Yes	Yes	Yes	Yes
Mackay-Wiggan et al. [85]	Cohort study	Prospective	NA	Unclear	Yes	Yes	Yes	Yes	Unclear
Maryam et al. [86]	Cohort study	Retrospective	NA	Yes	Unclear	Unclear	Unclear	Unclear	Unclear
Park et al. [87]	Case series	Retrospective	NA	Yes	Yes	Yes	Unclear	Unclear	Unclear
Serdaroğlu et al. [88]	Cohort study	Retrospective	NA	Yes	Yes	Yes	Unclear	Unclear	Unclear
Shapiro et al. [89]	Case series	Prospective	NA	Yes	Unclear	Yes	Unclear	No	Unclear
Shin et al. [90]	Cohort study	Retrospective	NA	Unclear	Yes	Yes	Yes	Yes	Unclear
Sriphojanart et al. [91]	Cohort study	Retrospective	NA	Yes	Yes	Yes	Yes	Yes	Unclear
Vañó-Galvan et al. [92]	Cohort study	Prospective	NA	Unclear	Unclear	Unclear	Unclear	Unclear	No
Vañó-Galvan et al. [93]	Cohort study	Prospective	NA	Yes	Yes	Yes	Unclear	Unclear	Unclear
Wambier et al. [94]	Case series	Retrospective	NA	Yes	Yes	Yes	Unclear	Unclear	Unclear
Yoshimasu et al. [95]	Cohort study	Prospective	NA	Unclear	Yes	Yes	Unclear	No	No
Zhang et al. [96]	Cohort study	Retrospective	NA	Yes	Yes	Yes	Yes	Yes	Yes

ID, identifier; NA, not applicable.

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