

Lichen planus pigmentosus inversus: case report and systematic review

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SUPPLEMENTARY MATERIAL

Supplementary Table 1. By searching PubMed for “lichen planus pigmentosus inversus” a total of 41 records were retrieved, ranging from the first description in 2001 to very recent cases in 2023.

Author, year (Country)	N cases	Age (y)	Gender M/F	Site	Background	Symptoms	Other conditions	Therapy and response	Duration (months)	Follow-up (months)
Pock, 2001 (Czech Republic) ¹	7	66	M	Axillae, back	Caucasians	Slight pruritus	None	NA	2	NA
		54	F	Axillae, shins	Caucasians	None	None	NA	6	NA
		68	F	Axillae, submammary, groins	Caucasians	None	None	NA	5	NA
		71	F	Axillae, groins	Caucasians	Slight pruritus	None	NA	1,25	NA
		60	F	Axillae, groins	Caucasians	None	None	NA	12	NA
		57	M	Axillae, groins, inner wrists	Caucasians	Slight pruritus	None	NA	6	NA
		46	M	Axillae	Caucasians	Slight pruritus	None	NA	180	NA

Munoz-Perez, 2002 (Spain) ²	1	27	M	Axillae, groin, abdomen, upper limbs	Caucasians	None	None	Deflazacort 45mg; lightening but persistence	2	11
Kashima, 2007 (Japan) ³	2	51	F	Axilla	Asiatic	None	None	None	2	6
		62	M	Axilla, groin, popliteal	Asiatic	None	None	None	6	6
Kim, 2007 (South Korea) ⁴	1	70	M	Groin	Asiatic	None	None	Tacrolimus 1%, then clobetasole propionate; no response	6	4
Kim, 2008 (South Korea) ⁵	2	49	F	Axilla	Asiatic	None	None	NA	NA	NA
		25	F	Axillae, groin	Asiatic	None	None	NA	12	NA
Bennassar, 2009 (Spain) ⁶	4	84	M	Axillae	Caucasians	Slight pruritus	None	Topical corticosteroid, no response	2	1
		72	F	Submammary	Caucasians	None	HCV	Calcineurin inhibitor; resolution	3	6

		59	M	Axillae, groins	Caucasians	Slight pruritus	None	Clobetasol propionate 0,05%; improvement	NA	NA
		54	F	Axillae, popliteal	Caucasians	None	None	Tacrolimus 0,1% and clobetasol propionate 0,05%; improvement	12	1
Jung, 2011 (South Korea) ⁷	1	31	F	Axilla, groins, popliteal, antecubital	Asiatic	None	None	NA	60	NA
Ohshima, 2011 (Japan) ⁸	1	54	F	Axillae, neck, back, abdomen, submammary, groin, popliteal	Asiatic	Slight pruritus	Uterine myoma	Mometasone furoate; response	4	9
Ruiz-Villaverde, 2011 (Spain) ⁹	4	72	F	Groins, submammary	NA	Slight pruritus	NA	Tacrolimus and prednicarbate; no response	NA	6
		42	M	Axillae	NA	None	NA		NA	6

		78	M	Axillae, groins, trunk	NA	Slight pruritus	NA	Tacrolimus; no response	NA	6
		64	F	Axilla left	NA	None	NA	Tacrolimus; no response	NA	6
Gaertner, 2012 (USA) ¹⁰	1	58	M	Groins	Caucasians	None	None	NA	NA	NA
Heit, 2012 (Argentina) ¹¹	3	30	M	Axillae, groins	NA	None	Diabetes type 1	Corticosteroid topical; mild improvement	0,5	NA
		81	F	Axillae	NA	None	None		24	NA
		76	F	Axillae	NA	None	Hypothyroidism		12	NA
Majima, 2012 (Japan) ¹²	2	65	M	Axilla, groins, popliteal	Asiatic	None	None	Bethametasone propionate; limited response then regression	12	9
		64	M	Groins	Asiatic	Slight pruritus	None	Alclometasone dipropionate; regression	2	4
Uyar, 2012 (Turkey) ¹³	1	59	F	Axillae, groins, abdomen	Caucasians	None	Hypothyroidism	Mometasone furoate 0,1% and tacrolimus 0,1%; no response	8	1,5

Acar, 2013 (Mexico) ¹⁴	1	29	F	Axillae, groins antecubital	Hispanic	Slight pruritus	None	Tacrolimus 0,1%; improvement	2	NA
Matamoros, 2013 (Argentina) ¹⁵	1	57	M	Skin folds	Caucasians	Slight pruritus	HCV	NA	36	NA
Matos Figueredo, 2013 (Cuba) ¹⁶	1	51	F	Submammary folds	Hispanic	None	Hypertension	Propolis creme; partial response	6	3
Rocha-Barros, 2013 (Brazil) ¹⁷	1	25	M	Axilla, groins, popliteal, neck	Brown-skinned	None	None	Oral prednisone; partial response after stopping therapy	9	5
Dizen-Namdar, 2014 (Turkey) ¹⁸	5	40	F	Axilla, groins, submammary, popliteal	Caucasians	None	None	Mometasone furoate; variable response	3	3

		45	F	Axillae, submammary, groins	Caucasians	Slight pruritus	None	Mometasone furoate; variable response	2	3
		61	M	Axillae	Caucasians	None	None	Mometasone furoate; variable response	1	3
		67	F	Axillae, submammary, groins	Caucasians	None	None	Mometasone furoate; variable response	12	3
		55	M	Axillae, groins	Caucasians	Slight pruritus	None	Mometasone furoate; variable response	3	3
Nijhawan, 2014 (USA) ¹⁹	1	47	M	Axillae, retroauricular	NA	Slight pruritus	None	NA	3	NA
Murzaku, 2014 (USA) ²⁰	1	45	F	Axillae	Hispanic	Slight pruritus	None	Triamcinolone 0,25%; no response	24	1

Monteagudo, 2014 (Spain) ²¹	1	39	F	Axilla, groins, submammary, interdigital folds hands and feet, retroauricular	Hispanic	Slight pruritus	None	UVB-BE; partial response	36	NA
Ghorbel, 2014 (Tunisia) ²²	6	74	F	Axilla, groins, submammary, neck	NA	None	Hypertension	Clobetasol propionate; no improvement	0,5	NA
		60	F	Neck, submammary, presacral	NA	Slight pruritus	NA	Oral prednisone; no improvement	36	NA
		54	F	Submammary, groins, genitalia	NA	Slight pruritus	NA	Bethametasone topical; no improvement	0,5	NA
		60	F	Submammary, groins	NA	Slight pruritus	Diabetes	Bethametasone topical; slight improvement	12	NA

		49	F	Axillae, groin, vulva	NA	Slight pruritus	NA	Bethametasone topical; no improvement	0,5	NA
		76	F	Submammary	NA	Slight pruritus	NA	Bethametasone topical; no improvement	3	NA
Reyes-Baraona, 2014 (Chile) ²³	1	74	M	Axillae and groins	NA	Slight pruritus	Hypertension	Tacrolimus 0,01% and clobetasol 0,05%; complete response	3	1
Chen, 2015 (China) ²⁴	3	15	F	Axilla, groins, abdomen, neck	Asiatic	None	None	NA	6	NA
		44	F	Axilla, groins, abdomen	Asiatic	None	None	NA	6	NA
		35	F	All intertriginous areas	Asiatic	Slight pruritus	None	NA	10	NA

Imbernon-Moya, 2015 (Spain) ²⁵	1	32	M	Axilla	NA	None	None	None	3	12
Ghorpade, 2015 (India) ²⁶	1	70	F	Groin, vulva		None	None	Mometasone furoate 0.1 % and tretinoin 0.025%; no response	48	7
Peralta, 2015 (Argentina) ²⁷	1	5	F	Axillae, popliteal	NA	Slight pruritus	None	Tacrolimus 0,1%; moderate improvement	24	1
Mohamed, 2016 (Tunisia) ²⁸	10	82	F	Axillae, submammary and inguinal folds	North African	Slight pruritus	Diabetes, hypertension	Betamethasone topical; slight improvement	18	NA

		68	F	Axillae, submammary, inguinal and popliteal folds, neck, external auditory canal, elbow, wrist, ankles, and lower part of the back	North African	Slight pruritus	Hypertension	Betamethasone topical; slight improvement	2	NA
		60	F	Right axillary fold (unilateral)	North African	None	Hypertension	Betamethasone topical; slight improvement	3	NA
		78	M	Neck, post-auricular sulci	North African	None	Cataracts	Betamethasone topical; slight improvement	12	NA
		45	F	Axillae, submammary and inguinal folds	North African	Slight pruritus	Gastritis	Betamethasone topical; slight improvement	6	NA

		70	F	Neck, axillae, submammary and inguinal folds, umbilicus	North African	None	None	Betamethasone topical; slight improvement	6	NA
		61	F	Inguinal folds, axillae, popliteal folds, submammary folds, neck	North African	Slight pruritus	Diabetes, hypertension	Betamethasone topical; slight improvement	12	NA
		49	F	Left axillary folds (unilateral)	North African	Slight pruritus	Hypertension, hypothyroidism, dental amalgams	Betamethasone topical; slight improvement	6	NA
		58	F	Right inguinal folds (unilateral)	North African	None	Diabetes, dyslipidemia	Betamethasone topical; slight improvement	3	NA
		53	M	Axillary folds, elbow, neck, and inguinal folds	North African	Slight pruritus	Dental amalgams	Betamethasone topical; slight improvement	2	NA
Hsu, 2017 (Taiwan) ²⁹	1	39	F	Axilla, groins, submammary, neck	Asiatic	Slight pruritus	NA	Topical corticosteroid, NSAIDs, keratolytic agents; no response	24	NA
Nurmohamed, 2017 (Canada) ³⁰	1	11	F	Axillae, groins, submammary, neck	Pakistani	Slight pruritus	None	Betamethasone 17-valerate 0.05% then switched to topical tacrolimus 0.1%; little clinical improvement	9	2
Tabanlıoğlu-Onan, 2017 (Turkey) ³¹	8	34-66	4 F, 4 M	Axilla, groins, submammary, abdomen, popliteal	Caucasians	Slight pruritus in 1, NA for others	Diabetes, hypertension, epilepsy, hypothyroidism	NA	6 vs. 36	NA

Ryynänen, 2018 (Finland) ³²	1	60	M	Axilla, groins, abdomen	Caucasians	None	None	Topical corticosteroid; no improvement	2	NA
Nakazato, 2019 (Japan) ³³	1	76	F	Axillae, groins	Asiatic	None	None	Topical corticosteroids; marked improvement	>12	6
Bishnoi, 2019 (India) ³⁴	1	55	F	Submammary	Indian	None	Herpes zoster	Topical corticosteroids; little improvement	8	1
Yu, 2019 (China) ³⁵	4	50	F	Axillae, groins	Asiatic	None	Hypertension, diabetes	Low-potency corticosteroids; little improvement	20	3
		63	F	Axillae, submammary	Asiatic	None	None	Chinese herbs and acitretin; marked improvement	5	3
		48	F	Axillae, groins, face	Asiatic	Slight pruritus	None	Chinese herbs and acitretin; marked improvement	3	3
		30	F	Jaw, neck, upper limbs	Asiatic	None	None	Chinese herbs; no improvement	12	3
Patel, 2020 (USA) ³⁶	1	58	M	Axillae	NA	Slight pruritus	Hypertension	Clobetasol and tacrolimus 0,1%; reduction	7	0,75
Dimova, 2020 (Makedonia) ³⁷	1	13	M	Neck, back, cubital, axillae, inguinal folds	Caucasians	Slight pruritus	None	Narrow band UVB; resolution	6	3
Falkenhain-López, 2020 (Spain) ³⁸	1	69	F	Axilla, submammary	Caucasians	Slight pruritus	RT for breast cancer	Topical corticosteroid; improvement	3	2
Guertler, 2021 (Germany) ³⁹	1	76	M	Axillae and groins	Caucasians	Slight pruritus	Atrial fibrillation, hypertension, breast cancer	Topical tacrolims 0,1%; marked improvement	4	4
Micalizzi, 2021 (Italy) ⁴⁰	1	83	M	Inguinal folds	Caucasians	NA	Laryngeal and colorectal cancer	NA	6	NA

Ramos, 2021 (USA) ⁴¹	1	32	F	Right inguinal folds (unilateral)	Nepalese	Slight pruritus	Hypercholesterolemia	Clobetasol propionate 0.5% with minimal improvement and hydroquinone 4% with no success.	3	3
Can Edek, 2022 (Turkey) ⁴²	1	52	M	Axilla, groin and nails	Turkish	Slight pruritus	Covid-19 Pfizer-BioNTech vaccine	Clobetasol propionate 0.05% and triamcinolone acetonide (10 mg/ml) injection to the nail	2	NA
Dickman, 2022 (USA) ⁴³	3	67	F	Axilla, groins, submammary	Caucasians	Slight pruritus	Diabetes	Ketoconazole 2% and hydrocortisone 2.5%, then pimecrolimus 1%; some improvement	12	NA
		40	F	Axillae and groins	Indian	NA	None	None	10	NA
		75	F	Feet and ankles	Caucasians	NA	Hypertension	NA	1	NA
Sun, 2022 (Portugal) ⁴⁴	1	64	F	Intertriginous areas	Caucasians	Slight pruritus	2 weeks before first dose of Oxford–Astra-Zeneca COVID-19 vaccine	Topical betamethasone 0.05%; minor clinical improvement	3	2
Gil-Quinones, 2023 (Colombia) ⁴⁵	1	71	M	Axilla, groins, intertriginous areas	Black	NA	Hypertension and 2 weeks before 2nd dose of Astrazeneca Covid-19 vaccine	Clobetasol propionate 0.05% and tacrolimus 0.1%; partial improvement	0,5	3
Ho, 2023 (Singapore) ⁴⁶	1	67	M	Lower back	Indian	Slight pruritus	Hypertension, myasthenia	Topical betamethasone valerate 0.05%; stable disease	0,3	1,5
Roster, 2023 (USA) ⁴⁷	1	35	M	Axillae	Black	None	None	NA	7	NA
Obeng-Nyarko, 2023 (USA) ⁴⁸	1	71	F	Axillae and neck	Hispanic	None	None	Tacrolimus ointment, NOS; NA	24	NA
Lamberti, 2024 (Italy) ⁴⁹	1	42	F	Submammary fold, right	Indian	None	Hashimoto thyroiditis	NA	2	NA

F, female; M, male; NA, not available; NOS, not otherwise specified; RT, radiotherapy.

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