

Appendix A. Search strategy

1.1 PubMed

#	Terms	Quotes
3	#1 AND #2	44
2	"Vitamin D"[Mesh] OR ("Cholecalciferol"[Mesh] OR calciol OR (3 beta, 5z, 7e) -9,10-Secocholesta-5,7,10 (19) -trien-3-ol OR vitamin d 3 OR vitamin d3 OR cholecalciferol) OR ("Hydroxycholecalciferols"[Mesh] OR hydroxyvitamin d OR hydroxycholecalciferol) OR ("Ergocalciferols"[Mesh] OR calciferol OR vitamin d 2 OR vitamin d2 OR d2, vitamin OR ergocalciferol) OR ("25-Hydroxyvitamin D 2"[Mesh] OR 25 hydroxyvitamin d 2 OR 25-Hydroxyergocalciferol OR 25 hydroxyergocalciferol OR 25-Hydroxyvitamin D2 OR 25 hydroxyvitamin d2 OR 9,10-Secoergosta-5,7,10 (19) , 22-tetraene-3 beta, 25-diol OR ercalcidiol OR 25-Hydroxycalciferol OR 25 hydroxycalciferol) OR ("Dihydrotachysterol"[Mesh] OR tachystin OR dihydrotachysterin OR calcarine OR AT 10 OR AT-10 OR AT10)	152855
1	("Pemphigus"[Mesh] OR pemphigus vulgaris OR pemphigus foliaceus OR foliaceus, pemphigus) OR ("Pemphigoid, Bullous"[Mesh] OR bullous pemphigoid OR pemphigoid OR pemphigoid) OR (autoimmune bullous skin disease) OR (autoimmune bullous skin diseases) OR (autoimmune bullous dermatosis) OR(autoimmune bullous dermatoses)	17265

1.2 EMBASE

#	Terms	Quotes
6	#4 AND #5	308
5	'vitamin d'/exp OR '24,25 dihydroxyvitamin d'/exp OR '25 hydroxyvitamin d'/exp OR 'vitamin d, 25 hydroxy' OR '9,10 secocholesta 5,7,10(19) trien 23 yne 1,3,25 triol'/exp OR '1, 25 dihydroxy 23 yne vitamin d3' OR 'ro 23 7498' OR '9,10 secocholesta 5,7,10(19) trien 23 yne 3,25 diol'/exp OR 'ro 23 9375' OR '9,10 secocholesta 5,7,10(19),16 tetraen 23 yne 1,3,25 triol'/exp OR '1, 25 dihydroxy 16 ene 23 yne cholecalciferol' OR '1, 25 dihydroxy 16 ene 23 yne vitamin d3' OR 'ro 23 7553' OR '9,10 secocholesta 5,7,10(19),22 tetraene 1,3,25,26 tetrol'/exp OR 'ro 23 4319' OR 'ro 23 8525' OR 'coleciferol derivative'/exp OR 'choleciferol derivative' OR 'vitamin d3 derivative' OR 'dihydrotachysterol'/exp OR '10, 19 dihydroercalcio' OR '9, 10 seco 5, 7, 22 ergostatien 3beta ol' OR '9, 10 secoergosta 5, 7, 22 trien 3beta ol' OR 'a.t.10' OR 'antitanil' OR 'antitetanin' OR 'antitetanine' OR 'at 10' OR 'at-10' OR 'at10' OR 'atecen' OR 'calcamin' OR 'calcamine' OR 'calcinosfaktor' OR 'dht intensol' OR 'dichistrolum' OR 'dichysterol' OR 'dichystrol' OR 'dihydral' OR 'dihydrotachysterin' OR 'dihydrotachysterine' OR 'dihydrotachysterol 2' OR 'dihydrotachysterol 3' OR 'dikystrol' OR 'dygratyl' OR 'hytakerol' OR 'manipal' OR 'parterol' OR 'tachidon' OR 'tachysterol, dihydro' OR 'tachystin' OR 'tachystine' OR 'tachystol' OR 'tetilan' OR 'ergocalciferol derivative'/exp OR 'calciferol derivative' OR 'vitamin d2 derivative' OR 'lunacalcipol'/exp OR '24 (2 methylpropane 2 sulfonyl) 9, 10 secochola 5, 7, 10 (19), 16, 23 pentaene 1, 3 diol' OR 'vitamin d derivative'/exp OR 'vitamin d analog'	270037
4	#1 OR #2 OR #3	22275
3	'autoimmune bullous skin disease' OR 'autoimmune bullous skin diseases' OR 'autoimmune bullous dermatosis' OR 'autoimmune bullous dermatoses'	327
2	'pemphigoid'/exp OR 'parapemphigus' OR 'bullous pemphigoid'/exp OR 'pemphigoid, bullous' OR 'mucous membrane pemphigoid'/exp OR 'benign mucous membrane pemphigoid' OR 'cicatricial pemphigoid' OR 'pemphigoid, benign mucous membrane' OR 'scarring pemphigoid' OR 'pemphigoid gestationis'/exp OR 'gestational pemphigoid' OR 'herpes gestationis'	9803
1	'pemphigus'/exp OR 'acantholysis'/exp OR 'erythematous pemphigus'/exp OR 'disease, senear usher' OR 'pemphigus erythematous' OR 'seborrheic pemphigus' OR 'seborrheic pemphigus' OR 'senear usher disease' OR 'senear usher syndrome' OR 'syndrome, senear usher' OR 'paraneoplastic pemphigus'/exp OR 'paraneoplastic autoimmune multiorgan syndrome' OR 'pemphigus, paraneoplastic' OR 'pemphigus foliaceus'/exp OR 'fogo selvagem'/exp OR 'pemphigus vulgaris'/exp OR 'benign mucosal pemphigus' OR 'benign mucous membrane pemphigus' OR 'benign pemphigus' OR 'chronic pemphigus'	14441

1.3 Cochrane CENTRAL

#	Terms	Quotes
1	MeSH descriptor: [Pemphigus] explode all trees	63
2	MeSH descriptor: [Pemphigoid, Bullous] explode all trees	37
3	(pemphigus):ti,ab,kw	190
4	(bullous pemphigoid):ti,ab,kw	113
5	(pemphigoid):ti,ab,kw	158
6	(autoimmune bullous skin disease):ti,ab,kw	28
7	(autoimmune bullous skin diseases):ti,ab,kw	17
8	(autoimmune bullous dermatosis):ti,ab,kw	2
9	(autoimmune bullous dermatoses):ti,ab,kw	3
10	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9	306
11	MeSH descriptor: [Vitamin D] explode all trees	4761
12	MeSH descriptor: [Cholecalciferol] explode all trees	2737
13	MeSH descriptor: [Ergocalciferols] explode all trees	1197
14	(vitamin D):ti,ab,kw	12905
15	(cholecalciferol):ti,ab,kw	2414
16	(ergocalciferols):ti,ab,kw	1139
17	#11 OR #12 OR #13 OR #14 OR #15 OR #16	14150
18	#10 AND #17	3

1.4 CNKI

((SU='天疱疮' + '天疱疮, 寻常') OR (SU='类天疱疮, 大疱性' + '类天疱疮') OR (SU='皮肤疾病, 水疱大疱性' + '大疱性皮肤病')) AND (SU='维生素 D' OR (SU='胆骨化醇' + 'D 维生素 D3') OR (SU='骨化醇类' + '麦角骨化醇类' + '麦角钙化醇' + '维生素 D2' + '双氢速甾醇' + '25-羟维生素 D2'))

3 items

1.5 CBM

((("天疱疮"[不加权:扩展] OR "天疱疮, 寻常") OR ("类天疱疮, 大疱性"[不加权:扩展] OR "类天疱疮") OR ("皮肤疾病, 水疱大疱性"[不加权:扩展] OR "大疱性皮肤病")) AND ("维生素 D"[不加权:扩展] OR ("胆骨化醇"[不加权:扩展] OR "维生素 D3") OR ("骨化醇类"[不加权:扩展] OR "麦角骨化醇类" OR "麦角钙化醇" OR "维生素 D2" OR "双氢速甾醇" OR "25-羟维生素 D2"))

3 items

1.6 VIP

((M=天疱疮 OR 天疱疮, 寻常) OR (M=类天疱疮, 大疱性 OR 类天疱疮) OR (M=皮肤疾病, 水疱大疱性 OR 大疱性皮肤病)) AND (M=维生素 D OR (M=胆骨化醇 OR 维生素 D3) OR M=骨化醇类 OR 麦角骨化醇类 OR 麦角钙化醇 OR 维生素 D2 OR 双氢速甾醇 OR 25-羟维生素 D2))

15 items

Appendix B. supplementary figures

Fig. S1 Sensitivity analyses with metaninf command. **(a)** serum 25(OH)D levels (ng/mL) in pemphigus patients; **(b)** serum 25(OH)D levels (ng/mL) in BP patients; **(c)** prevalence of hypovitaminosis D in pemphigus patients; **(d)** prevalence of hypovitaminosis D in BP patients.

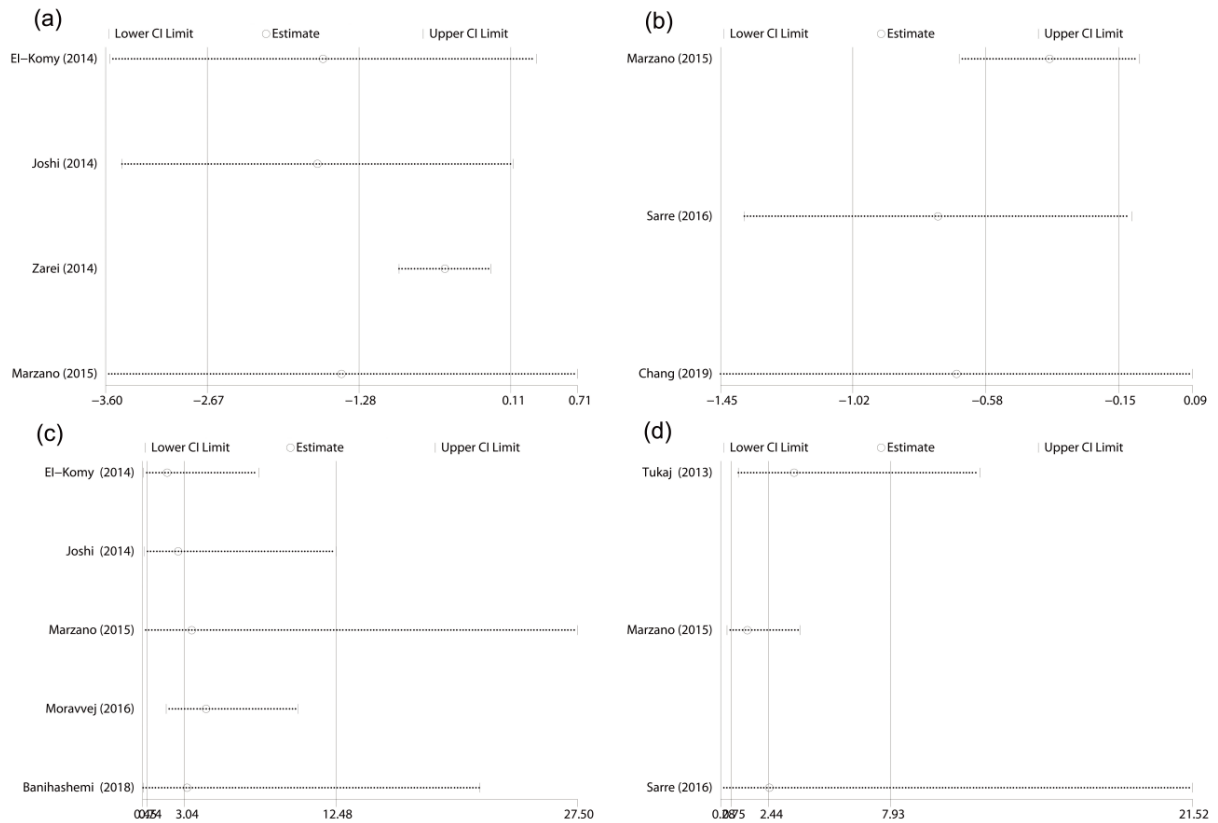


Fig. S2 Begg's plots and Egger's plots for publication bias assessment. **(a)(b)** serum 25(OH)D levels (ng/mL) in pemphigus patients; **(c)(d)** serum 25(OH)D levels (ng/mL) in BP patients; **(e)(f)** prevalence of hypovitaminosis D in pemphigus patients; **(g)(h)** prevalence of hypovitaminosis D in BP patients.

