Publication information	Country	Study type	Diagnosis	Subjects	Treatment	Treatment duration	Outcome	Adverse events
Pinter [45] 2019	Germany	Case series	PPP	4	Brodalumab	Patient 1: 15 weeks Patient 2: 4 weeks Patient 3: 44 weeks Patient 4: 28 weeks	Inefficacy in 3 PPP patients and a partial response in the fourth patient	Patient 1: Worsening of PsO Patient 4: Worsening of arthritis, bad taste on the tongue
Del Campo [68] 2021	USA	Case study	PPP	1	Tildrakizumab	Tildrakizumab 100 mg at week 0, week 4, and every 12 weeks thereafter	At 4 weeks, there was a reduction of BSA to 1% and PGA to 1. At 12 weeks, the patient achieved complete clearance	NA
Yawalkar [93] 2008	Switzerland	Case study	PPP	1	Sequential use of infliximab and adalimumab	12 weeks	Treatment with infliximab was discontinued due AEs. Thereafter, 40 mg adalimumab injected weekly led to amelioration	NA
Yang [94] 2022	China	Case study	PPP	1	Adalimumab	2 years	After 2 weeks, joint symptoms were significantly relieved. After 4 weeks, palmoplantar pustules were alleviated	NA
Kasche [99] 2006	Germany	Case study	PPP	1	25 mg etanercept twice weekly	7 months	After 2 weeks, dramatic improvement was noted; etanercept was well tolerated	Local reactions at the injection site
Antoniou [100] 2008	Greece	Case study	PPP	1	Etanercept and acitretin	18 months	Complete remission	NA

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Naik [6] 2022	USA	Phase 2, open-label, dose-escalation trial	PP	Anakinra (*n* = 18)	Anakinra 100 mg daily was initiated with dose escalation every 4 weeks for 12 weeks up to 300 mg daily.	12 weeks	At week 12, ≥ 50% reduction in the TBSAI was achieved in 50.0% (7 of 14) of subjects treated with anakinra. At week 12, all but one responder demonstrated > 5-point improvement in the DLQI score	Injection site reactions, headaches, nausea, infection, pruritus, and pain
Cro [7] 2021	UK	Randomised, double-blind, multicentre, two-staged, adaptive placebo-controlled trial	PPP	Anakinra (*n* = 31) Placebo (*n* = 33)	8 weeks of anakinra or placebo daily	8 weeks	At week 8, mean difference in ppPASI was in favour of anakinra but did not demonstrate superiority (–1.65, 95% CI: –4.77 to 1.47; *p* = 0.30). At week 12, mean difference in ppPASI at week 12 for anakinra versus placebo was –2.42 (95% CI: –5.97 to 1.13; *p* = 0.182)	The most frequently reported AEs were injection site reaction, headache, diarrhoea and cough
Skov [16] 2008	Denmark	Open-label multicentre study	PPP	HuMab 10F8 (*n* = 31)	Single dose dose-escalation setup followed by a 4-week multiple-dose extension (including single dose levels of 0.15, 0.5, 1, 2, 4, and 8 mg/kg)	8 weeks	At week 1, across all dose groups, there was a reduction of 52.9% (pustule count) from baseline (*p* = 0.003), and a reduction of 55.9% (pustule count) from baseline to week 8	25 of 31 patients (81%) had in total 85 adverse events, which were mostly mild or moderate. The most frequently reported AEs were nausea, nasopharyngitis, and headache
Mrowietz [31] 2019	Germany	Phase 3b RCT	PPP	300 mg secukinumab (*n* = 79) 150 mg secukinumab (*n* = 80) Placebo (*n* = 78)	TP1, secukinumab, 300 mg or 150 mg, or placebo was administered at weeks 1, 2, 3, and 4; and then at 4-week intervals. TP2, placebo subjects who were rerandomized to secukinumab treatment received weekly injections of secukinumab, 300 mg or 150 mg, for 5 weeks followed by administration every 4 weeks	52 weeks	At week 16, ppPASI-75 response was achieved in 26.6% of subjects treated with 300 mg of secukinumab (21 of 79) versus in 14.1% who received placebo (11 of 78) (*p* = 0.0411) and in 17.5% of those treated with 150 mg of secukinumab (14 of 80) (*p* = 0.5722). At week 16, ppPASI-50 response was achieved by 52.2% of subjects treated with secukinumab, 300 mg, at week 16 (36 of 69) versus by 32.9% of those receiving placebo (23 of 70) (*p* = 0.0159)	The most frequent AEs were nasopharyngitis, pustular psoriasis, headache, and pruritus
Au [55] 2013	USA	Investigator-initiated, open-label trial	Palmoplantar psoriasis	Ustekinumab (*n* = 20)	Ustekinumab at weeks 0, 4, and 16	16 weeks	At week 16, 67% (12 of 20) improved ≥ 2 points on the Palm-Sole Physician's Global Assessment Scale. At week 16, 67% (6 of 9) in the 90 mg ustekinumab group achieved complete clearance versus 9% (1 of 11) in the 45 mg group (*p* = 0.02)	4 of 20 subjects (20%) developed an upper respiratory tract infection. 2 (10%) patients developed acne or acneiform eruptions. 1 patient developed acute bronchitis

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Bissonnette [27] 2013	Canada	RCT	PPP	Ustekinumab group (n = 5) Placebo (n = 8)	Subjects randomised to ustekinumab received 45 mg for patients weighing less than 100 kg and 90 mg for patients weighing 100 kg or more at day 0, week 4 and week 16, followed by placebo at week 20. Subjects randomised to placebo received an equal volume injection of bacteriostatic sodium chloride at day 0 and week 4 followed by ustekinumab at week 16 and 20	16 weeks	At week 16, ppPASI-50 response was achieved in 20.0% (1 of 5) for the ustekinumab group as compared to 37.5% (3 of 8) for the placebo group (p = 1.000). At week 16, for all groups and cohorts, there were no statistically significant differences in DLQI, WPAI: PSO or PPQoLI	Two AEs leading to study discontinuation: a case of leg cellulitis and a case of pneumonia
Terui [57] 2019	Japan	Phase 3 RCT	PPP	100 mg guselkumab (n = 54) 200 mg guselkumab (n = 52) Placebo (n = 53)	Guselkumab, 100 or 200 mg, at weeks 0, 4, and 12, and every 8 weeks thereafter was administered; placebo was given at weeks 0, 4, and 12	52 weeks	At week 16, ppPASI-50 response was achieved in 57.4% of subjects treated with 100 mg of guselkumab (31 of 54) versus in 34.0% who received placebo (18 of 53) (p = 0.02) and in 36.5% of those treated with 200 mg of guselkumab (19 of 52) (p = 0.78). At week 16, ppPASI-75 response was achieved in 20.4% of subjects treated with 100 mg of guselkumab (11 of 54) versus in 3.8% who received placebo (2 of 53) (p = 0.01) and in 11.5% of those treated with 200 mg of guselkumab (6 of 52) (p = 0.12)	At week 52, the proportions of patients reporting 1 or more TEAEs were 85.2% (46 of 54) in the guselkumab 100-mg group and 94.2% (49 of 52) in the 200-mg group. The most frequent reported AEs were nasopharyngitis, eczema, urticaria, erythema, pustular psoriasis and injection-site erythema
Caldarola [67] 2023	Italy	Retrospective analysis	Palmoplantar psoriasis	Risankizumab (n = 16)	NA	52 weeks	ppPASI-90 responses were 18.7%, 62.2%, 75.0% and 81.2% at weeks 4, 16, 28 and 52	No mild or serious safety issues occurred
Mrowietz [115] 2021	Germany	Phase 2a, multicentre, double-blind, randomised, placebo-controlled pilot study	PPP	900 mg spesolimab (n = 19) 300 mg spesolimab (n = 19) Placebo (n = 21)	Spesolimab, 900 or 300 mg and placebo every 4 weeks, corresponding to day 1 and weeks 4, 8, and 12	32 weeks	At week 16, ppPASI-50 response was achieved in 31.6% (6 of 19) of subjects in both spesolimab dose groups versus 23.8% (5 of 21) in the placebo group. At week 16, ppPASI-75 response was achieved in 21.1% of subjects treated with 900 mg of spesolimab (4 of 19) versus in 9.5% who received placebo (2 of 21) and none of those treated with 300 mg of spesolimab	The most frequently reported AEs were nasopharyngitis, headache, PPP, arthralgia and cough

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Husson [54] 2020	France	Multicentre retrospective descriptive study	PPP	For PPP subjects restricted to receive the studied drug in monotherapy: adalimumab (*n* = 35), ustekinumab (*n* = 30), etanercept (*n* = 31), infliximab (*n* = 22)	NA	Minimum of 12 weeks	For subjects restricted to receive the studied drug in monotherapy: adalimumab: improvements 50% (*n* = 35) and complete clearances 17.6% (*n* = 35), ustekinumab: improvements 70% (*n* = 30) and complete clearance 37.9% (*n* = 30), etanercept: improvements 50% (*n* = 31) and complete clearance 13.3% (*n* = 31), infliximab: improvements 77.3% (*n* = 22) and complete clearance 19% (*n* = 22)	Adalimumab: the most frequent AE was paradoxical psoriasis, in 5 patients (10.6% of all exposed patients). Ustekinumab: the most frequent AE was PPP or ACH worsening (4.6% of all exposed patients). Etanercept: the most frequent AEs was injection-site reaction (*n* = 3, 8.6% of all exposed patients). Infliximab: the most frequent AE was angio-oedema for 2 patients (6.5% of all exposed patients)
Kromer [81] 2019	Germany	Retrospective multicentre study	PPP	Adalimumab (*n* = 69), etanercept (*n* = 62), ustekinumab (*n* = 42), infliximab (*n* = 32), secukinumab (*n* = 31), golimumab (*n* = 12), certolizumab pegol (*n* = 8)	NA	Biologics maintenance rate: certolizumab pegol (restricted mean: 47.4 months), followed by infliximab (median: 26 months), golimumab (22 months), ustekinumab (21 months), adalimumab (18 months), secukinumab (9 months), and etanercept (8 months)	Adalimumab (*n* = 69), PR 23/69 (33.3%); ER 23/69 (33.3%) etanercept(*n* = 62), PR 33/62 (53.2%); ER 12/62 (19.4%) ustekinumab (*n* = 42), PR 16/42 (38.1%); ER 13/42 (31.0%) infliximab (*n* = 32), PR 12/32 (37.5%); ER 13/32 (40.6%) secukinumab (*n* = 31), PR 8/31 (25.8%); ER 9/31 (29.0%) golimumab (*n* = 12), PR 4/12 (33.3%); ER 5/12 (41.7%) certolizumab pegol (*n* = 8), PR 3/8 (37.5%); ER 5/8 (62.5%) Partial response (PR) defined as 25–75% improvement according to the physicians' descriptions or photographic evidence; excellent response (ER) defined as > 75% improvement	Most frequently reported AEs: adalimumab: infection 7/69 (10.1%), neurological AEs 5/69 (7.2%), paradox reaction 4/69 (5.8%), etanercept: infection 4/62 (6.5%), allergic reaction 2/62 (3.2%), reaction at the application site 2/62 (3.2%), ustekinumab: infection 2/42 (4.8%), depression 1/42 (2.4%), neurological AE 1/42 (2.4%), infliximab: allergic reaction 5/32 (8.1%), infection 3/32 (4.8%), elevated liver enzymes 1/32 (3.1%), secukinumab: infection 3/31 (9.7%), neurological AE 1/31 (3.2%), golimumab: diagnosis of neoplasia 1/12 (8.3%), certolizumab pegol: gastrointestinal AE 1/8 (12.5%)

Bissonnette [80] 2011	Canada	RCT	Palmoplantar psoriasis	Infliximab (n = 12), placebo (n = 12)	Subjects were randomised (1 : 1) to receive infliximab 5 mg/kg or placebo at weeks 0, 2 and 6. Subjects initially randomised to placebo received infliximab at weeks 14, 16 and 20. Subjects randomised to infliximab received additional infliximab every 8 weeks until week 22	26 weeks	At week 14, 33.3% (4 of 12) of patients randomised to infliximab reached mean-ppPASI-75 versus 8.3% (1 of 12) of placebo (p = 0.317). At week 14, 66.7% (8 of 12) of patients randomised to infliximab reached mean-ppPASI-50 versus 8.3% (1 of 12) of placebo (p = 0.009). At week 14, mean PPSA was significantly lower than that at day 0 for patients randomised to infliximab (p = 0.002) but not for patients randomised to placebo (p = 0.750)	2 serious AEs reported: one case of cellulitis on the right cheek and one case of hepatitis
Bissonnette [101] 2008	Canada	RCT	PPP	Etanercept (n = 10) placebo (n = 5)	Either 50 mg etanercept or placebo biweekly for 3 months. All subjects then received 50 mg etanercept biweekly for an additional 3 months	6 months	At week 24, the decrease in median ppPASI score from baseline to 24 weeks was statistically significant for subjects treated with etanercept (p = 0.038, n = 10) but not for subjects in the placebo/etanercept cross-over group (p = 0.125, n = 5)	NA