

Supplementary table 1. Clinical summary of the three cases of recalcitrant subepidermal autoimmune bullous diseases (SABD).

BP: bullous pemphigoid; CTX: cyclophosphamide; CsA: cyclosporine; DXM: dexamethasone; F: female; HBsAg: surface antigen of type B hepatitis virus; IVIG: intravenous immunoglobulin; M: male; MEP: Methylprednisolone; MTX: methotrexate; TCS: topical corticosteroids;

**H&E showed subepidermal blistering with a dermal eosinophilic cell infiltrate.*

Case	Sex/Age, year	Duration, month	Clinical manifestation	Diagnosis and evidence	Medical comorbidities	Previous therapies	Treatments before dupilumab	Response to the treatments before dupilumab	Usage of dupilumab	Concomitant treatments with dupilumab	Progress and follow-up after dupilumab
1	F/54	17	Itchy, eczematous lesions and blisters with erosion over the trunk and extremities;	SABD: H&E*, DIF#	Psychiatric disorder history	TCS, Prednisone, IVIG, CTX, Doxycycline, Etanercept	TCS, MEP 80 mg/d (equivalent to prednisone 1.5 mg/kg/d), for 1 week followed by DXM 20 mg/d for 2 weeks (equivalent to prednisone 2.5 mg/kg/d), IVIG, CTX 0.2 g every other day	No response; psychosis progression	600 mg initially followed by 300 mg every other week for twice	TCS, MEP 40 mg/d (equivalent to prednisone 0.75 mg/kg/d), CTX 0.2 g every other day	Disease clearance within 1 month; Prednisone tapered off over 3 months without disease rebound; psychosis remission;
2	M/50	3	Severely itchy, eczematous lesions and blisters over the trunk and extremities;	BP: H&E*, DIF#, Anti-BP180 IgG (+)	HBsAg (+) with high copies of HBV, Glucocorticoid gene test: high-risk for necrosis of femoral head	TCS, Prednisone, IVIG	TCS, MEP 80 mg/d (equivalent to prednisone 1.5 mg/kg/d) for 2.5 week →MEP 120 mg/d 3 days (equivalent to prednisone 2.2 mg/kg/d), IVIG, MTX 10 mg weekly, CsA 100 mg twice daily	No response	600 mg once	TCS, MEP 120 mg/d (equivalent to prednisone 2.2 mg/kg/d), MTX 10mg weekly, CsA 100mg twice daily	Disease controlled in 1 week; Prednisone tapered to 0.75 mg/kg/d within 2 weeks and to 0.5 mg/kg/d over 2 months without relapse
3	F/68	>36	Itchy blisters with erosion over the trunk and extremities;	SABD: H&E*, DIF#	Hypertension, Type 2 diabetes mellitus, Stroke, Arrhythmias with sustained atrial fibrillation, HBsAg (+) with high copies of HBV	TCS, Prednisone, IVIG, CTX, MTX, Cyclosporine	TCS, Prednisone 5-10 mg daily, CTX 100 mg daily	No response; Developing active gastric ulcer with bleeding	600 mg initially followed by 300 mg every other week for twice	TCS	Improvement of pruritus within 1 week and maintained for 2 months, no improvement in bulla

#DIF showing linear deposits of C3 along the dermoepidermal junction.

