

Supplementary Table 1. Key diagnostic features of specific immune-related adverse events.

Organ System / irAE	Key Clinical Features	Diagnostic Evaluation	Key Differential Diagnoses
Endocrine: Hypothyroidism	Fatigue, weight gain, cold intolerance, constipation	Elevated TSH, decreased free T4	None specified
Endocrine: Hyperthyroidism	Palpitations, sweating, weight loss, increased appetite	Elevated free T3/T4, suppressed TSH	None specified
Endocrine: Hypophysitis	Persistent headache, visual disturbances	Pituitary swelling on MRI; low ACTH/cortisol	Brain metastases, leptomeningeal disease, stroke
Endocrine: Immune-related diabetes mellitus	New-onset polyuria, polydipsia, weight loss, ketoacidosis	Elevated blood glucose, HbA1c	Other causes of ketoacidosis (e.g., type 1 diabetes)
Cardiac: Myocarditis	Chest pain, heart failure symptoms, palpitations, dyspnea	Elevated troponin/CK-MB; ECG abnormalities; Echocardiography	Acute coronary syndrome, pulmonary embolism, disease progression
Dermatologic: Maculopapular Rash	Maculopapular rash, pruritus, mucosal involvement	Clinical skin examination	Allergic reactions, other drug eruptions, infection
Pulmonary: Pneumonitis	Dyspnea, cough, chest pain; 1/3 patients are asymptomatic	CT showing GGO or infiltrates	Pulmonary infection, disease progression, alveolar hemorrhage
Gastrointestinal: Colitis	Diarrhea, abdominal pain, bloody/mucoid stools	Endoscopy (mucosal erythema/erosions/ulcers)	Infectious colitis

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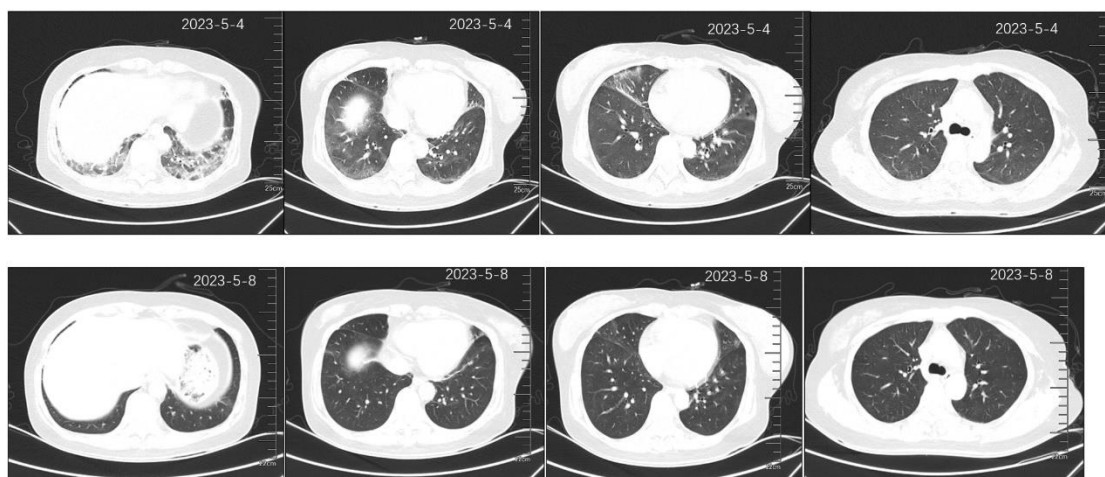
Musculoskeletal: Myositis	Proximal muscle weakness, pain, myalgia	Elevated CK/aldolase; EMG/MRI/biopsy if needed	Other myopathies, infectious myositis
Hepatic: Hepatitis	Often asymptomatic; non-specific fatigue, fever	Elevated ALT/AST, with or without elevated bilirubin	Other causes of liver injury (metastases, other drugs)
Neurological: Aseptic Meningitis / Neuropathy	Variable CNS/PNS symptoms (e.g., headache, weakness, sensory loss)	Neurological exam; Brain/spine MRI; CSF analysis	Disease progression, metabolic deficiencies, infection
Hematological: Cytopenias	Fatigue, pallor, bruising, bleeding	Anemia, thrombocytopenia; positive Coombs test (if hemolytic)	Other causes of cytopenias
Pancreatic: Pancreatitis	Abdominal pain, nausea, vomiting (often asymptomatic)	Elevated amylase/lipase; CT findings	Gallstones, metastases, hypertriglyceridemia, other drug causes

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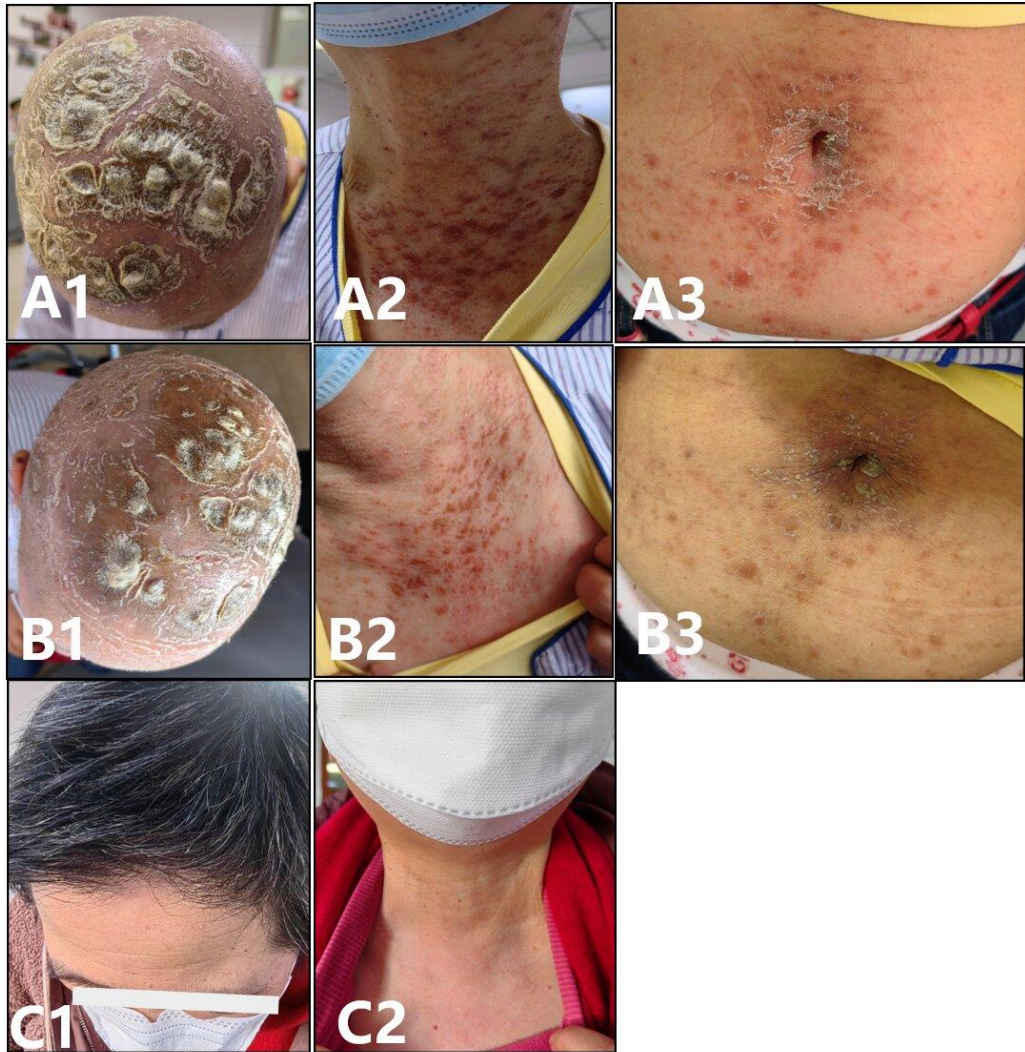
Supplementary Table 2. Incidence of irAEs across patient subgroups.

Characteristics	Subgroup	irAEs, n <sup>†</sup> / N <sup>‡</sup> (%)
Tumor Type		
	Cervical Cancer	106/415 (25.5)
	Vaginal Cancer	3/15 (20)
	Ovarian Cancer	14/75 (18.7)
	Vulvar Cancer	3/18 (16.7)
	Uterine Malignancy	9/81 (11.1)
	Gestational Trophoblastic Neoplasm	1/22 (4.5)
Treatment Stage		
	Initial treatment	78/302 (25.8)
	Recurrent disease	58/324 (17.9)
Treatment regimen		
	ICIs Monotherapy	22/41 (53.7)
	ICI + Chemotherapy	96/506 (19.0)
	ICI + Radiotherapy	25/153 (16.3)
	ICI + Targeted Therapy	25/180 (13.9)
ICI Class		
	Anti-PD-1	98/530 (18.5)
	Anti-PD-L1	6/15 (40.0)
	Anti-PD-1 + Anti-CTLA-4	32/81 (39.5)

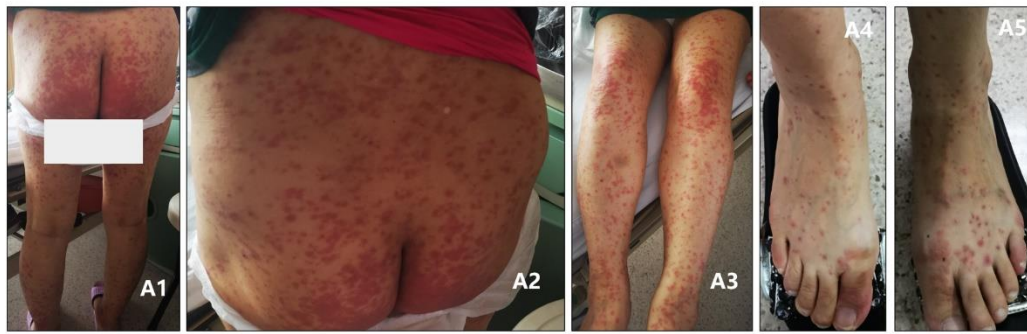
**Note:** † n, number of patients with irAEs; ‡ N, total patients in the subgroup.



Supplementary Figure 1. Pulmonary CT Imaging Changes in a Patient with Pneumonitis as an irAE During Treatment.



Supplementary Figure 2. Serial Changes in Skin Lesions Following Treatment for irAE Dermatitis. This figure illustrates the clinical progression of dermatitis in a representative patient. Panels A1-A3 show the characteristic skin lesions at the initial onset of the irAE. Panels B1-B3 depict the progressive improvement of these lesions during active treatment. Panels C1-C2 demonstrate the complete resolution of the skin lesions upon successful completion of therapy.



Supplementary Figure 3. Skin Lesions in a Patient with irAE-Induced Dermatitis During Immunotherapy. This figure series depicts the cutaneous manifestations at disease onset in a representative patient. Panels A1-A2 show the characteristic rash located on the buttocks and lower back. Panel A3 demonstrates the appearance of the rash on the leg. Panels A4-A5 present the rash affecting both feet.



Supplementary Figure 4. Skin Lesions in a Patient with Cutaneous Capillary Hyperplasia as an irAE During Immunotherapy. This figure depicts the cutaneous manifestations at disease onset in a representative patient. Panels A1-A2 show the characteristic skin lesions located on the neck and chest.



Supplementary Figure 5. Evolution of Neck Swelling in Patients with Thyroiditis as an irAE During Immunotherapy. Serial imaging documents the progressive improvement of thyroid enlargement in a representative patient. Panels A1-A4 illustrate the resolution of the neck swelling over the treatment course.



Supplementary Figure 6. Resolution of Thyroiditis-Associated Neck Swelling in a Second Patient. Serial imaging documents the progressive improvement of thyroid enlargement in a representative patient. Panels A1-A2 illustrate the resolution of the neck swelling over the treatment course.