

SUPPLEMENTARY MATERIALS

Supplementary Table 1. SCAR phenotype-specific criteria for Drug reaction with eosinophilia and systemic symptoms (DRESS). RegiSCAR scoring system (8, 22). Inclusion of cases with drug reaction with eosinophilia and systemic symptoms (DRESS) requires a RegiSCAR score of ≥ 4 and hospitalisation.

RegiSCAR Item		Present		Absent
Fever $\geq 38.5^{\circ}\text{C}$ (101.3°F)		0		-1
Enlarged lymph nodes (>1 cm size, at least two sites)		1		0
Eosinophilia: ≥ 700 or ≥ 10 percent (leucopenia)	≥ 1500 or ≥ 20 percent (leucopenia)	1	2	0
Atypical lymphocytes		1		0
Rash ≥ 50 percent of body surface area		1		0
Rash suggestive (≥ 2 of facial edema, purpura, infiltration, desquamation)		1		0
Skin biopsy suggesting alternative diagnosis		-1		0
Organ involvement: one	two or more	1	2	0
Disease duration >15 days		0		-2
Investigation for alternative cause (blood cultures, ANA, serology for Hepatitis viruses, mycoplasma, Chlamydia) ≥ 3 done and negative		1		0

Supplementary Table 2. SCAR phenotype-specific criteria for Acute generalized exanthematous pustulosis (AGEP). AGEP validation score, EuroSCAR group (23). Inclusion of cases with acute generalised exanthematous pustulosis (AGEP) requires an AGEP score of ≥ 5 .

Morphology	Score
Pustules	
Typical*	+2
Compatible**	+1
Insufficient***	0
Erythema	
Typical*	1
Compatible**	
Insufficient***	
Distribution/patter	
Typical*	1
Compatible**	
Insufficient***	
Post pustular desquamation	
Yes	1
No/insufficient	
Course	
Mucosal involvement	
Yes	-2
No	0
Acute onset (≤ 10 days)	
Yes	0
No	-2
Resolution	

Yes	0
No	-4
Fever ≥ 38	
Yes	+1
No	0
PMN $\geq 7000/\text{mm}^3$	
Yes	+1
No	0
Histology	
Other disease	-10
Not representative/no histology	0
Exocytosis of PMN	+1
Subcorneal and/or intraepidermal non-spongiform or NOS '2 pustule(s) with papillary oedema or subcorneal and/or intraepidermal spongiform or NOS pustule(s) without papillary oedema (NOS $\frac{1}{2}$ not otherwise specified)	+2
Spongiform subcorneal and/or intraepidermal pustule(s) '3 with papillary edema	+3

Supplementary Table 3. Schedule of assessments during study period.

Schedule of Assessments			
Procedure	Visit	Timeline	Volume
Part 1: DNA	Acute admission / outpatient visit	Acute	Saliva sample or additional 9mls blood
Part 2: Blood draws	Acute or follow-up admission / outpatient visit	Acute / convalescent	$\leq 150\text{mls}$ blood (adults) OR $\leq 50\text{ml}$ (aged 12 – 18 years)
Part 2: Skin sample	Acute admission / outpatient visit	Acute / convalescent	3-4mm punch biopsy
Part 2: Blister fluid	Acute admission	Acute	Any amount
Part 2: Other relevant fluid samples (eg. CSF, urine, LN aspirate)	Acute or follow-up admission / outpatient visit	Acute / convalescent	Any amount
Part 3: Patient survey	Follow-up phone call / electronic mail-out	12 months post SCAR onset (convalescent)	N/A

Drug Hypersensitivity Quality of Life Questionnaire (DrHy-Q)

To be performed at 12 months post onset of rash. Assessment should be performed over the phone by a study investigator or via an online tool (REDCap) if they prefer.

If the patient doesn't speak English:

1. Prior to calling all patients, extract the data from the medical record as outlined above. During the medical record review, check Emergency Department presentation notes medical record to determine whether an interpreter was needed during any episodes.
 - a. If an interpreter was needed during the episode, the telephone interview should be undertaken with the assistance of an interpreter.
 - b. If an interpreter was not used during hospital episodes, but a family member was involved with the patient's care due to a language barrier, contact this person to determine whether a suitable time can be set up to invite the patient to participate.
2. If a potential language barrier is not identified in the episode notes, telephone the patient as outlined below. If during the telephone call, it is apparent that an interpreter is needed, attempt to explain to the patient that you will organise an interpreter to assist with the conversation or ask to speak with an English-speaking family member.
3. If a family member or professional telephone interpreter assists with the interview, note this on the data collection form and the scanned medical record.

Verbal consent script for patients discharged from hospital identified from AUS-SCAR database.

"Hello could I please speak to (patient's full given name and surname)?"

Hello, I am _____, a nurse or doctor at the _____ Hospital.

Before we proceed, can I please confirm your full name, your date of birth and address?

We are doing an audit to see how your health is following a recent episode of an adverse reaction you had to a medication and managed at _____ Hospital. If you agree to be involved, we will ask you some questions about yourself. Usually the interview takes about 10 minutes.

We initially obtained your consent to contact you for this survey and this will be your final involvement in the study.

If you would prefer we can email you a link to a safe online version of the questions for you to answer in your own time.

If patient is not home:

"Is there a time that I could call back to speak with (patient's name)?"

If the patient is busy:

"Is there another time that I could call back that would be convenient?"

Questions:

1. "Would you consider yourself allergic to any drugs?"
 - a. **If Yes** – "Could you please list them?"
2. "Did you have any allergy testing performed after your discharge from hospital?"
 - a. **If Yes** – "Do you know the results?"
3. "Did you receive a medical alert letter or card on discharge from the hospital?"
 - a. **If Yes** – "What is listed on this?"
4. "Have you had any recurrent rashes to drugs since discharge from hospital?"
 - a. **If Yes** – "Could you please list the drugs and describe the reactions"

Phenotype-specific questions

5. **If antibiotic associated SCAR** - "Have you received any antibiotics since the antibiotic allergy testing was performed?" (if antibiotic associated SCAR)
 - a. **If Yes** - "Could you tell me which antibiotics, what they were given for and if you had any reactions?"
 - b. **If Yes** - "Would you be happy with us contacting your general practitioner for these details?"
6. **If SJS or TEN** - "Do you have any ongoing issues with your eyes or vision?"
7. **If SJS or TEN** - "Do you have any ongoing issues of scarring or contractures?"
8. **If DRESS** - "Do you have any autoimmune problems since / after your reaction such as thyroid disease or diabetes"
 - a. **If Yes** - "Diabetes" (Y/N), "Thyroid disease" (Y/N), "Lupus" (Y/N), "Other" (Y/N)

Drug Hypersensitivity Quality of Life Questionnaire (DrHy-Q) – as per previously published protocol (24) – Answer True or False

1. I would like an allergy doctor's opinion before taking drugs prescribed by other doctors
2. I feel different from others
3. Even a little discomfort is a problem for me
4. Since I am unable to take drugs every illness limits me more than other people
5. My allergy problems interfere with my sexual life
6. My family and partner are aware of my allergy problem
7. I am afraid of being administered a drug during an emergency to which I am allergic
8. For each infection I would be confident that there is a drug that I can take safely
9. I feel anxious due to my allergy reaction
10. I worry every time I take a drug different from ones that cause my allergic reactions
11. The idea of taking a medicine makes me feel anxious
12. My family doctor is aware of my adverse drug reaction
13. Experiencing an adverse reaction to drugs affects my life
14. I feel anguished due to my problem of allergy reaction
15. I am afraid I could not deal with the pain
16. I've given up leisure activities (sport, vacations, trips) because of my problem
17. I'm in a bad mood due to my problem of allergy reaction