Interferon-gamma ELISpot assay facilitates safe drug rechallenge in severe cutaneous adverse reactions caused by anti-tuberculosis drugs

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Introduction

Culprit drug identification in patients diagnosed with anti-tuberculosis (anti-TB) induced severe cutaneous adverse drug reaction (SCAR) remains a difficult task. Although drug challenge is the diagnostic gold standard, it could have unintended harmful consequences among SCAR patients.

Table1: Baseline characteristics (Nsubject=14)

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<th>Phenotypes</th>
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<td>%</td>
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Methods

The frequencies of drug-specific IFN-γ releasing cells in peripheral blood mononuclear cells (PBMCs) were measured prior to a reintroduction of isoniazid, rifampin, pyrazinamide, and ethambutol.

Results

Table1: Baseline characteristics (Nsubject=14)

<table>
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<tr>
<th>Gender</th>
<th>M:F</th>
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<td>%</td>
<td>9:5</td>
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Figure 2: Percentage of patients with positive ELISpot (Nsubject=14)

Figure 1: Average frequencies of detectable anti-TB induced IFN-γ releasing cells (SFU/10⁶ PBMCs) (Ndrugs=32)

Figure 3: Yields of reintroduction of 32 tested drugs

Conclusion

The measurement of drug-specific IFN-γ releasing cells was beneficial as prior guidance for the reintroduction of anti-TB drugs. The high specificity of the test would be helpful to identify the culprit drugs and reduce the use of harmful drug rechallenge in SCAR subjects caused by anti-TB.

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