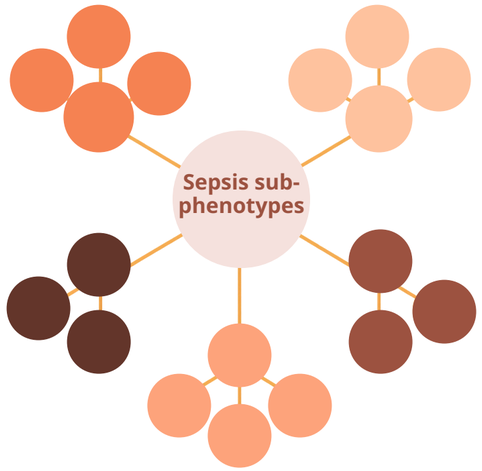
SPRINGER NATURE

In patients with sepsis, 3-5 subphenotypes show different responses to diverse treatments.



1. KEY MESSAGE

Sepsis suphenotypes with differing responses to treatments can be identified by cluster analysis of mixed clinical data, suggesting a path toward more personalized therapy.

Primary outcome:

In-hospital mortality rate of different sepsis sub-phenotypes

2. MAIN RESULTS

Three or five subphenotypes with different hospital mortalities, patient characteristics, and treatment effects were identified.

Recombinant thrombomodulin showed significant efficacy in subphenotype 1 in both k-UMAP analyses (number of clusters = 3; number of clusters = 5).

Antithrombin III was significantly effective in subphenotype 2 in the k-UMAP analysis with five clusters.

3. METHODS

Study type: Secondary analysis of multicenter observational registries.

Study cohort: 1,756 patients with sepsis admitted to intensive care units in Japan.

Methods: Cluster analysis using k-UMAP, k-prototype, and KAMILA on 52 admission variables, followed by logistic regression with propensity score weighting to assess treatment effects by subphenotype.

Japanese ICU patients with Sepsis

> 1,700

Abbreviations: Intensive care unit (ICU)

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