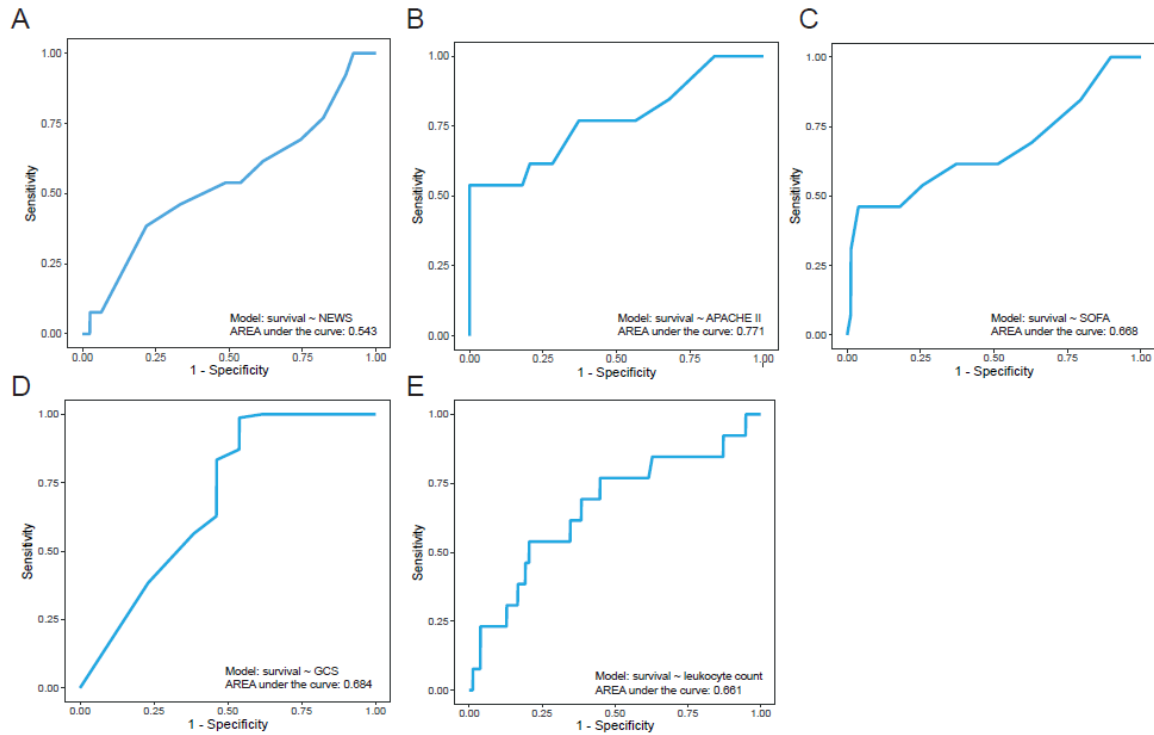
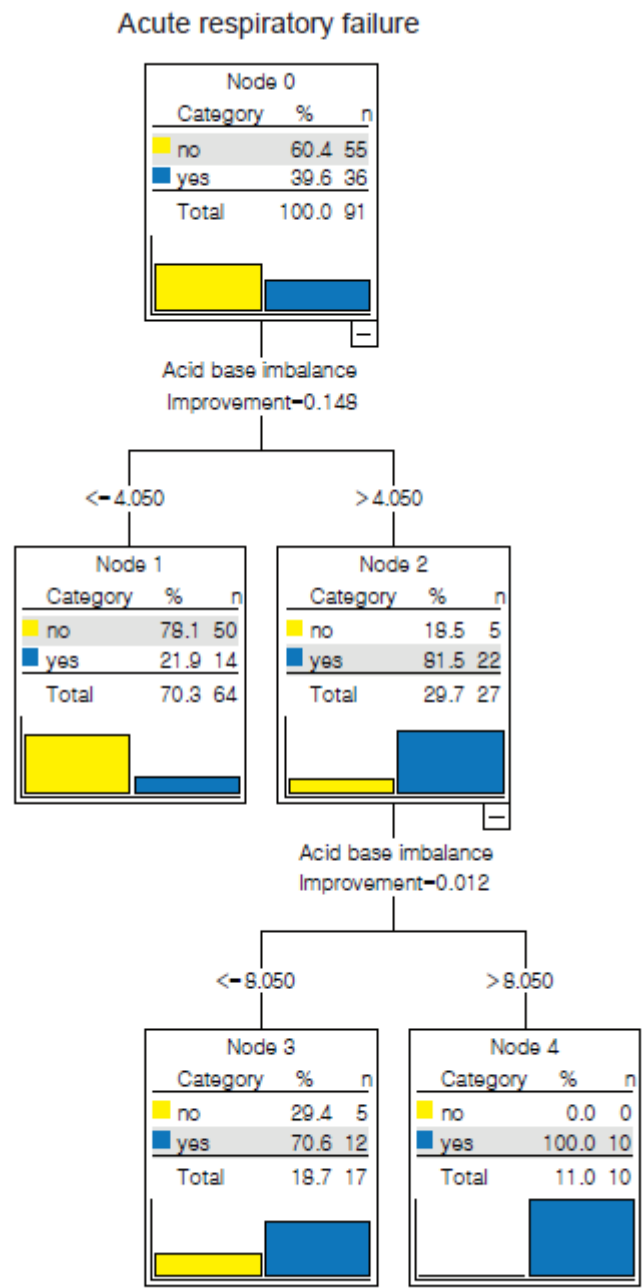


Supplementary information



Supplementary figure 1

Supplementary figure 1. A Receiver operating characteristic (ROC) curve showing the statistical performance of (A) NEWS, (B) APACHE II, (C) SOFA, (D) GCS and (E) leukocyte count according to survival rate.



Supplementary figure 2

Supplementary figure 2. A decision tree of acid-base imbalance to predict acute respiratory failure in 91 patients with scrub typhus (yellow: absence of acute respiratory failure; blue: presence of acute respiratory failure)

Supplementary table 1. The criteria for admission to intensive care unit

Vital signs
Pulse rate<40 times/minute or >150 times/minute
Systolic blood pressure<80 mmHg
Diastolic blood pressure>120 mmHg
Average arterial pressure<60 mmHg
More than 35 breaths/min
Laboratory tests
Serum sodium<110 mEq/L or >170 mEq/L
Serum potassium below 2.0 mEq/L or above 7.0 mEq/L
Arterial blood oxygen partial pressure<50 mmHg
Arterial pH<7.1 or >7.7
Blood glucose level>800 mg/dl
Serum calcium>15 mg/dl
Toxic doses of drugs or chemicals that may be of hemodynamic or neurological problem
Radiology/Ultrasonography/Computed Tomography
Cerebral bleeding, or subarachnoid hemorrhage with changes in consciousness or local neurological signs
Hemodynamically unstable rupture of the intestines, bladder, liver, esophagus, varicose veins or uterus
Aortic dissection
Echocardiogram
Myocardial infarction associated with complex arrhythmia, hemodynamic instability or congestive heart failure
Continuous ventricular tachycardia or ventricular fibrillation
Complete atrioventricular block with hemodynamic instability
Acute onset physical signs
When the pupil size is different in an unconscious patient
Anuria
Airway obstruction
Coma
Persistent convulsions
Cardiac tamponade

Supplementary table 2. Gene sets within the top 10-ranked list related to scrub typhus (scrub typhus versus health, GSE 24247)

NAME	SIZE	ES	NES	NOM (p-value)	FDR (q-value)	FWER (p-value)
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	66	0.702	1.593	< 0.001	0.396	0.29
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	96	0.627	1.541	< 0.001	0.358	0.483
KEGG_APOPTOSIS	87	0.565	1.522	< 0.001	0.333	0.64
KEGG_JAK_STAT_SIGNALING_PATHWAY	150	0.592	1.516	< 0.001	0.269	0.679
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	62	0.562	1.513	< 0.001	0.221	0.689
KEGG_LEISHMANIA_INFECTION	70	0.501	1.504	< 0.001	0.205	0.733
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	49	0.744	1.436	0.071	0.386	0.86
KEGG_PRION_DISEASES	35	0.546	1.432	< 0.001	0.358	0.877
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	257	0.599	1.427	< 0.001	0.337	0.877
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	48	0.534	1.427	< 0.001	0.304	0.877
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	66	0.702	1.593	< 0.001	0.396	0.29

ES: Enrichment score, NES: Normalized enrichment score, FDR: False discovery rate, NOM: Nominal p-value, FDR: False discovery rate, FWER: Family-wise error rate

Supplementary table 3. Gene sets within the top 10-ranked list related to scrub typhus (scrub typhus versus other infection, GSE 16463)

NAME	SIZE	ES	NES	NOM (p-value)	FDR (q-value)	FWER (p-value)
KEGG_ARACHIDONIC_ACID_METABOLISM	53	0.551	1.834	0.002	0.143	0.105
KEGG_ASTHMA	30	0.656	1.784	0.010	0.139	0.172
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	48	0.549	1.710	0.009	0.222	0.302
KEGG_ETHER_LIPID_METABOLISM	28	0.486	1.633	0.006	0.367	0.494
KEGG_GLUTATHIONE_METABOLISM	46	0.501	1.537	0.050	0.653	0.721
KEGG_ALPHA_LINOLENIC_ACID_METABOLISM	17	0.489	1.506	0.022	0.679	0.772
KEGG_DRUG_METABOLISM_CYTOCHROME_P450	71	0.404	1.504	0.046	0.591	0.779
KEGG_TYPE_I_DIABETES_MELLITUS	44	0.462	1.501	0.051	0.530	0.786
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_INFECTION	65	0.408	1.493	0.042	0.499	0.799
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	254	0.397	1.473	0.035	0.510	0.83
KEGG_ARACHIDONIC_ACID_METABOLISM	53	0.551	1.834	0.002	0.143	0.105

ES: Enrichment score, NES: Normalized enrichment score, FDR: False discovery rate, NOM: Nominal p-value, FDR: False discovery rate, FWER: Family-wise error rate