Monitoring T-Cell function in septic shock:
One-Year experience with a fully automated assay

Thomas Lafon[1,2], Morgane Gossez[1,3], Annabelle Schild[1], Martin Cour[4], Laurent Argaud[4], Franck Berthier[5], Fabienne Venet[1,3], Anne-Claire Lukaszewicz[6,7], Guillaume Monneret[1,7]

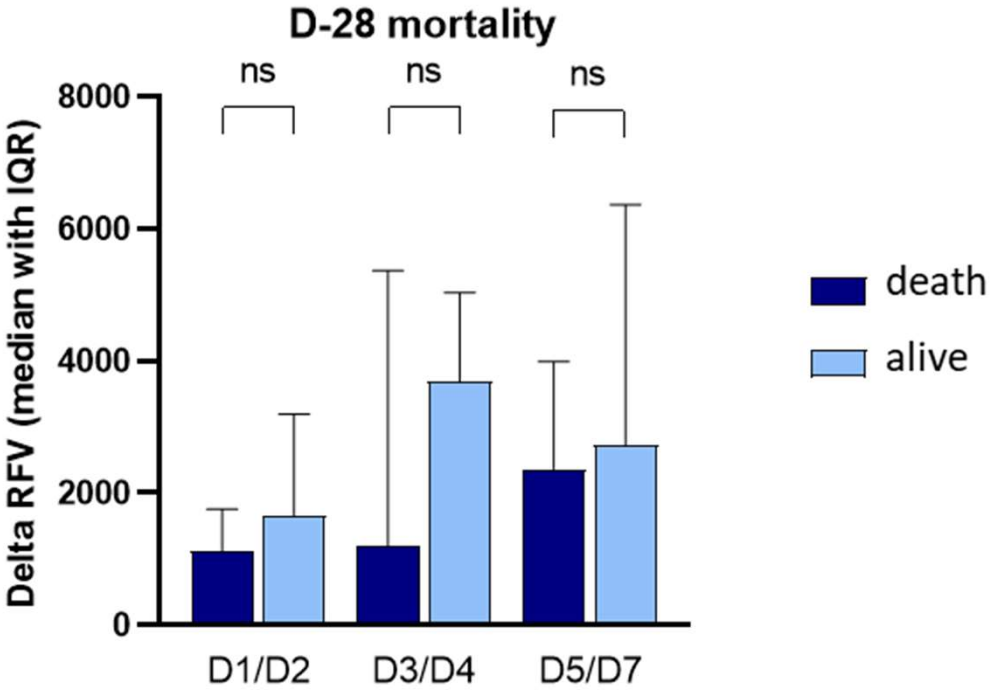
Supplementary figures

Figure S1.
Immunological parameters in healthy volunteers

	Healthy volunteers (n=23)
mHLA-DR (AB/C)	24 865 [21 628 -29 253]
Lymphocytes totaux (G/L)	1.565 [1.227 – 2.189]
Lymphocytes TCD4 (G/L)	0.7765 [0.5875 – 1.0188]
Lymphocytes TDC8 (G/L)	0.3915 [0.3422 - 0.5735]

Figure S2.

IFN-γ production results throughout the monitoring period.
Results are presented as delta RFV according to 28-day mortality or ICU-acquired infections.
Variables were compared using Mann-Whitney test.
Number of samples at each time point as follows: D 1/2 (n = 60), D 3/4 (n = 49), D 5/7 (n = 33).



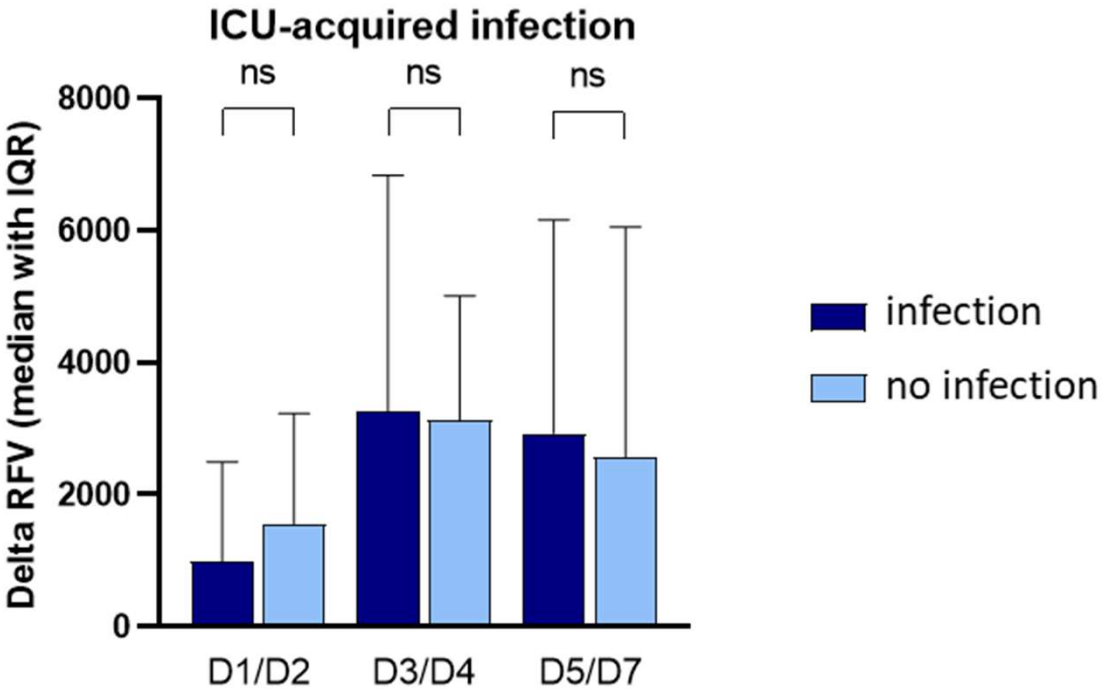


Figure S3

ROC analysis of IFN-γ secretion for predicting clinical deterioration

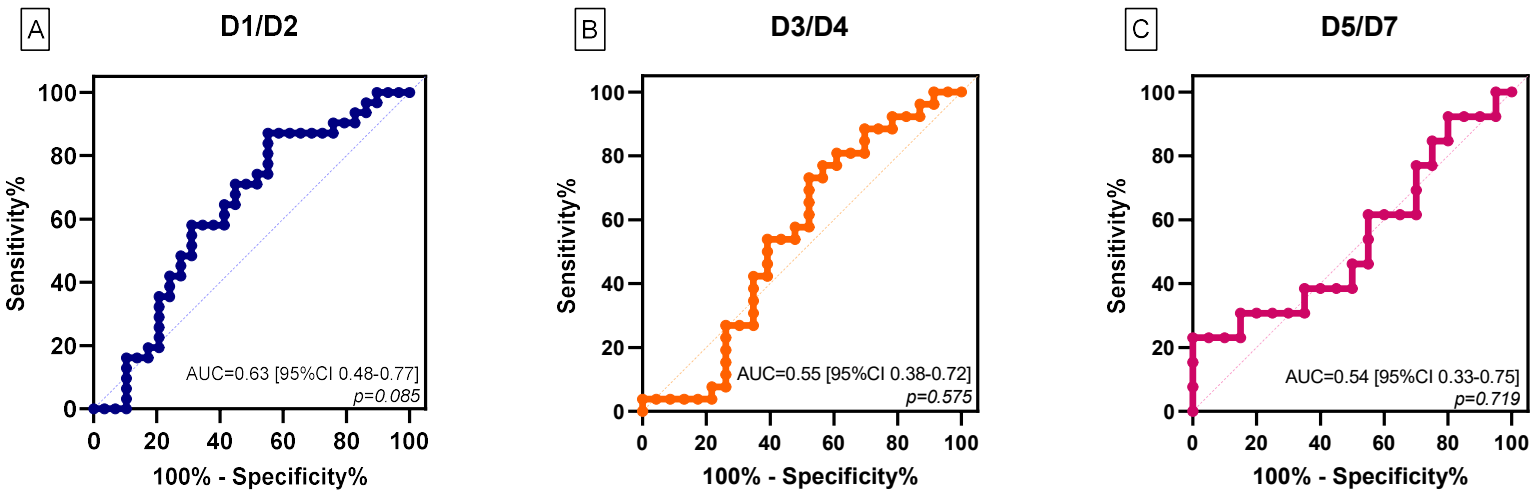
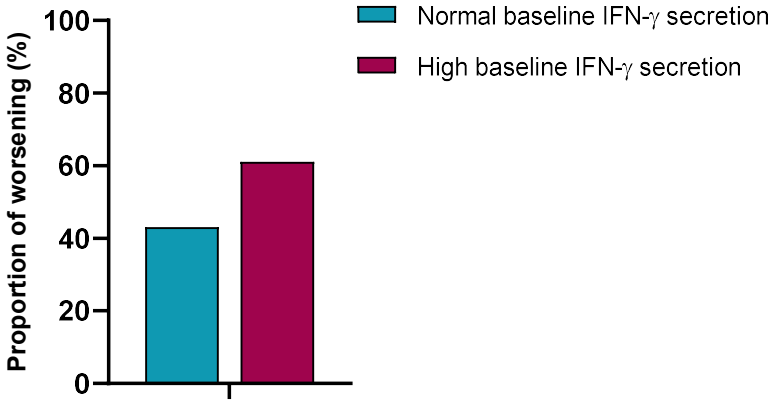


Figure S4

We focused on values obtained on D 1/2 in the nil condition (i.e., incubation without stimulant), specifically identifying patients with IGRA values > 0.08 IU/mL.
This likely reflects elevated circulating IFN-γ levels independent of any stimulation.
Patients were categorized based on this characteristic:
18 patients had IGRA values > 0.08 IU/mL in the nil condition, while 42 had values < 0.08 IU/mL.
As shown in Figure below, patients with detectable IFN-γ in the nil condition were at a higher risk of worsening (61% vs. 43%), suggesting a trend toward a more severe phenotype.
However, no statistically significant differences were observed between the groups.

Baseline characteristics of patients according to baseline IFN-γ secretion at admission (≥8 vs <8 IU/mL or 4500 FV).



	High baseline IFN-γ secretion N=18	Normal baseline IFN-γ secretion N=42	*p-value*
Demographics			
Age (y), median [Q1-Q3]	74 [63-78]	71 [66-80]	*0.895*
Charlson comorbidities index, median [Q1-Q3]	3.5 [1.0-5.3]	3.0 [2.0-5.0]	*0.920*
Immunosuppressed, (%)	7 (39%)	6 (14%)	*0.045*
Organ support			
Vasopressor use, (%)	18 (100%)	42 (100%)	-
Mechanical ventilation, (%)	10 (55%)	26 (62%)	*0.775*
Intermittent hemodialysis, (%)	6 (33%)	9 (21%)	*0.347*
Continuous renal replacement therapy, (%)	3 (17%)	4 (10%)	*0.419*
Hydrocortisone hemosuccinate, (%)	13 (72%)	37 (88%)	*0.149*
Immunological parameters (admission)			
mHLA-DR AB/C [Q1-Q3]	5317 [2509-12661]	4240 [2251]	*0.125*
IFN-γ production [Q1-Q3]	1438 [412-3383]]	1372 [799-3168]	*0.660*
NLR [Q1-Q3]	27 [17-45]	17 [11-29]	*0.080*
Lymphocytes, cells/µL [Q1-Q3]	489 [413-652]	519 [339-830]	*0.971*
Septic shock severity Day 1			
SAPS II, median [Q1-Q3]	60 [47-80]	54 [44-68]	*0.135*
SOFA score, median [Q1-Q3]	9.0 [6.5-12.0]	9.0 [7.0-12.0]	*0.997*
Lactates (mmol/L), median [Q1-Q3]	4.8 [3.0-7.2]	3.2 [2.5-4.8]	*0.070*
Mean arterial pressure (mmHg), median [Q1-Q3]	54 [42-56]	58 [51-65]	*0.030*
Vasopressor dose (µg/kg/mn), median [Q1-Q3]	1.5 [0.3-3.2]	0.8 [0.4-1.2]	*0.060*
Outcome			
Worsening, (%)	11 (61%)	18 (43%)	*0.262*
D-28 mortality, (%)	8 (44%)	11 (26%)	*0.227*
ICU-acquired infection, (%)	4 (22%)	8 (19%)	*0.720*
ICU length of stay, median [Q1-Q3]	6 [2-12]	6 [3-14]	*0.524*
Hospital length of stay, median [Q1-Q3]	13 [9-29]	19 [10-29]	*0.632*