



**Figure S1** Flow chart of inclusions/exclusion criteria. FUO, fever of unknown origin;  $^{18}\text{F}$ -FDG PET/CT,  $^{18}\text{F}$ -fluorodeoxyglucose positron emission tomography/computer tomography; AOSD, adult-onset still's disease.

**Table S1** Comparison of clinical characteristics between patients with AOSD and those with lymphoma in the validation cohort

Characteristics	AOSD (n=15)	Lymphoma (n=12)	P
Demographics			
Sex			0.057
Female	12 (80.0)	5 (41.7)	
Male	3 (20.0)	7 (58.3)	
Age (years)	33.5±11.9	54.3±16.3	0.001
Disease duration (weeks)	3 (3, 4)	4 (3, 7)	0.106
Clinical manifestation			
Fever >39 °C	12 (80.0)	5 (41.7)	0.057
Lymphadenopathy	5 (33.3)	11 (91.7)	0.005
Splenomegaly	10 (66.7)	3 (25.0)	0.031
Arthralgia	12 (80.0)	1 (8.3)	<0.001
Pharyngalgia	12 (80.0)	1 (8.3)	<0.001
Rash	13 (86.7)	2 (16.7)	<0.001
Laboratory parameters			
WBC ( $\times 10^9/L$ )	11.5 (10.4, 18.6)	4.7 (3.4, 8.1)	<0.001
Neutrophils (%)	84.0 (73.1, 89.3)	70.4 (63.9, 80.6)	0.010
ESR (mm/h)	71 (46, 86)	64 (28, 78)	0.305
CRP (mg/L)	88.0 (51.0, 177.0)	78.7 (17.8, 97.3)	0.200
Serum ferritin (ng/mL)	3,519 (1,415, 14,751)	960 (244, 3,142)	0.055
LDH (IU/L)	426 (367, 703)	522 (240, 786)	0.938

Categorical variables are presented as number (%) and continuous variables are presented as mean  $\pm$  SD or median (Q1, Q3). AOSD, adult-onset still's disease; WBC, white blood cell; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; LDH, lactate dehydrogenase; SD, standard deviation; Q1, first quartile; Q3, third quartile.

**Table S2** The ROC curves and the cut-off values of PET/CT parameters

Parameters	AUC	95% CI	P	Cut-off values	95th percentile in healthy controls
SUV <sub>max</sub> of bone marrow	0.234	0.133–0.336	<0.001	4.4	4.719
SUV <sub>max</sub> of liver	0.571	0.434–0.709	0.259	3.4	3.997
SUV <sub>max</sub> of spleen	0.474	0.334–0.614	0.679	5.1	3.078
SUV <sub>max</sub> of lymph node	0.630	0.501–0.758	0.040	8.3	–
MLV <sub>total</sub>	0.691	0.576–0.807	0.002	48.42	–
TLG <sub>total</sub>	0.705	0.594–0.816	0.001	9.0	–

ROC, receiver operating characteristic; PET/CT, positron emission tomography/computer tomography; SUV<sub>max</sub>, maximum standardized uptake value; MLV, metabolic lesion volume; TLG, total lesion glycolysis.

**Table S3** Univariate logistic regression analysis for differentiating AOSD from lymphoma

Univariate	P	OR	95% CI (lower)	95% CI (upper)
Demographics				
Male gender	<0.001	5.081	2.043	12.636
Age (years)	0.001	1.044	1.017	1.072
Clinical manifestation				
Fever >39 °C	<0.001	0.064	0.023	0.173
Lymphadenopathy	0.009	22.000	2.180	221.974
Splenomegaly	0.015	2.780	1.221	6.328
Arthralgia	<0.001	0.018	0.005	0.069
Pharyngalgia	<0.001	0.072	0.025	0.209
Rash	<0.001	0.011	0.003	0.046
Laboratory parameters				
WBC ≤10×10 <sup>9</sup> /L	<0.001	8.744	3.218	23.758
Neutrophils ≤80%	<0.001	11.310	3.606	35.473
Evaluated ESR evaluation	0.002	0.111	0.028	0.437
CRP > ULN	0.068	0.319	0.093	1.088
Ferritin ≤ ULN	0.001	6.493	2.230	18.900
LDH > ULN	0.076	0.415	0.157	1.098
PET/CT parameters				
SUV <sub>max</sub> of bone marrow <4.7	<0.001	8.228	3.033	22.320
SUV <sub>max</sub> of LN >8.3	<0.001	4.812	2.025	11.435
MLV <sub>total</sub> >48.42	<0.001	7.040	2.819	17.578
TLG <sub>total</sub> >9.0	0.002	7.556	2.114	27.002
SUV <sub>max</sub> of liver >3.44	0.041	2.368	1.035	5.417
SUV <sub>max</sub> of spleen >5.1	0.165	1.987	0.753	5.240

AOSD, adult-onset still's disease; WBC, white blood cell; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; ULN, upper limit of normal; LDH, lactate dehydrogenase; PET/CT, positron emission tomography/computer tomography; SUV<sub>max</sub>, maximum standardized uptake value; MLV, metabolic lesion volume; TLG, total lesion glycolysis; OR, odds ratio; CI, confidence interval.

**Table S4** PET/CT parameters comparing in different histological type of lymphoma and AOSD

Features	AOSD (n=70)	B (n=19)	T/NK (n=16)	Hodgkin (n=2)	P
Lymph node					
SUV <sub>max</sub>	4.9 (2.3, 8.0)	11.3 (3.4, 20.4)	8.6 (4.0, 10.7)	(1.0, 16.3)	0.008
Hypermetabolism	70	18	16	2	0.321
MLV <sub>total</sub> (cm <sup>3</sup> )	11.44 (1.57, 39.33)	49.49 (6.85, 93.69)	76.3 (14.2, 214.3)	(1.27, 116.14)	0.001
TLG <sub>total</sub>	28.1 (2.8, 142.4)	143.6 (21.6, 845.6)	274.1 (38.2, 891.7)	(14.1, 955.9)	<0.001

Data are presented as median (Q1, Q3) or number. PET/CT, positron emission tomography/computer tomography; AOSD, adult-onset still's disease; SUV<sub>max</sub>, maximum standardized uptake value; MLV, metabolic lesion volume; TLG, total lesion glycolysis; Q1, first quartile; Q3, third quartile.

**Table S5** Distribution of model items in the patients with 2 score

Diagnosis	WBC ≤10×10 <sup>9</sup> /L	Ferritin ≤ ULN	No abnormal bone marrow metabolism	TLG <sub>total</sub> >9.0
AOSD (n=29)	19 (65.5)	4 (13.8)	13 (44.8)	22 (75.9)
Lymphoma (n=7)	5 (71.4)	1 (14.3)	3 (42.9)	5 (71.4)

Data are presented as number (%). AOSD, adult-onset still's disease; WBC, white blood cell; SUV<sub>max</sub>, maximum standardized uptake value; ULN, upper limit of normal; TLG, total lesion glycolysis.