Table S1. Comparison of characteristics, laboratory findings, clinical outcome, and the detection rates of viral pathogens between non-ICS group and ICS group.

Characteristics	Non-ICS group n=26	ICS group n=28	p value
Age, years[a]	9.2±2.2	10.3±2.5	0.086
Men	17 (65.4%)	14 (50.0%)	0.25
Treatment during a stable state, n (%)			
LABA	0 (0.0%)	22 (78.6%)	< 0.001*
Symptom			
Wheezes	24 (92.3%)	22 (78.6%)	0.25
Duration of URTI symptoms before consultation, days[b]	4 (2–6)	3 (2–6)	0.83
Body temperature, °C[a]	37.3±0.6	37.3±1.0	1.00
Laboratory findings			
CRP, mg/dL[b]	0.49 (0.29–1.20)	0.41 (0.04–0.99)	0.18
WBC count, /μL[a]	9,337±2,588	7,603±2,700	0.02*
Eosinophil count in bloods, /μL[b]	66 (8–518)	312 (45–570)	0.14
Eosinophil percentage in blood, %[b]	0.8 (0.1–4.4)	3.6 (0.8–7.1)	0.07
Total serum IgE, IU/mL[b]	1,187 (742–1,891)	810 (435–1,746)	0.31
Hospitalisation duration, day[b]	6 (5–8)	8 (7–8)	0.07
Treatment with systemic corticosteroids, n (%)	26 (100.0%)	27 (96.4%)	1.00
Duration with systemic corticosteroids, days[b]	5 (4–7)	5 (4–7)	0.83
Viral pathogen detected	23 (88.5%)	22 (78.6%)	0.47
HRV/enterovirus[C]	21 (80.8%)	15 (53.6%)	0.03
HRV	21 (80.8%)	12 (42.9%)	0.004*
HRV-A	9 (34.6%)	7 (25.0%)	0.44
HRV-B	0 (0.0%)	1 (3.6%)	1.00
HRV-C	12 (46.2%)	4 (14.3%)	0.01*
non detected	0 (0%)	2 (7.1%)	0.49
enterovirus	0 (0.0%)	1 (3.6%)	1.00
Parainfluenza virus	2 (7.7%)	3 (10.7%)	1.00
Respiratory syncytial virus	0 (0.0%)	3 (10.7%)	0.24
Influenza A virus	1 (3.8%)	1 (3.6%)	1.00
Human metapneumovirus	0 (0.0%)	1 (3.6%)	1.00
Coronavirus	0 (0.0%)	1 (3.6%)	1.00
Adenovirus	0 (0.0%)	1 (3.6%)	1.00

Data are the mean±standard deviation[a] and the median (interquartile range)[b]
[C]Detected by multiplex PCR. *p < 0.05
Number of participants with missing data were as follow: 2 for CRP; 1 for WBC count and eosinophil count and percentage in blood, 8 for total serum IgE.
Abbreviations;PFT, pulmonary function test; ICS, inhaled corticosteroids; LABA, long-acting beta2-agonist; URTI, upper respiratory tract infection; CRP, C-reactive poritein; WBC, white blood cell; IgE, immunoglobulin E; FVC, forced vital capacity; FEV1, forced expiratory volume in one second; HRV, human rhinovirus.

Table S2. Comparison of characteristics, laboratory findings, and clinical outcome between non-PFT group and PFT group in HRV-positive hospitalized patients with systemic steroids treatment.

Characteristics	Non-PFT group n=15	PFT group n=18	p value
Age, years[a]	9.4±1.9	10.4±2.6	0.19
Male, n (%)	10 (66.7%)	11 (61.1%)	0.74
Treatment during a stable state, n (%)			
ICS	0 (0.0%)	2 (11.1%)	0.49
ICS/LABA	0 (0.0%)	10 (55.6%)	< 0.001*
Anti-lgE antibody	0 (0.0%)	1 (5.6%)	1.00
Symptom			
Wheezes, n (%)	15 (100.0%)	14 (77.8%)	0.11
Duration of URTI symptoms before consultation, day[b]	3 (2–4)	4 (2–7)	0.74
Body temperature, °C[a]	37.2±0.5	37.3±0.9	0.56
Laboratory findings			
CRP, mg/dL[b]	0.60 (0.34–1.30)	0.42 (0.15–1.04)	0.26
WBC count, /μL[a]	9,373±2,341	8,549±2,667	0.35
Eosinophil count in bloods, /μL[b]	130 (8–592)	302 (68–507)	0.65
Eosinophil percentage in blood, %[b]	0.9 (0.1–6.2)	3.3 (1.2–6.4)	0.56
Total serum IgE, IU/mL[b]	1,351 (686–2354)	828 (516–1848)	0.28
Baseline lung function (pre-bronchodilator)			
FVC, L[a]	-	2.11±0.54	-
FEV1, L[a]	-	1.85±0.53	-
FEV1% predicted, %[a]	-	92.5±10.5	-
FEV1/FVC, %[a]	-	87.6±7.3	-
Types of human rhinovirus, n (%)			
A	5 (33.3%)	11 (61.1%)	0.11
B	0 (0.0%)	1 (5.6%)	1.00
C	10 (66.7%)	6 (33.3%)	0.06
Hospitalisation duration, days	6 (5–8)	7 (6–8)	0.19
Systemic steroid treatment duration, days	5 (4–7)	6 (4–7)	0.85

Data are the mean±standard deviation[a] and the median (interquartile range)[b]

Number of participants with missing data were as follows; 2 for Total serum IgE.
*$p < 0.05$.

Abbreviations;PFT, pulmonary function test; ICS, inhaled corticosteroids; LABA, long-acting beta2-agonist; URTI, upper respiratory tract infection; CRP, C-reactive poritein; WBC, white blood cell; IgE, immunoglobulin E; FVC, forced vital capacity; FEV1, forced expiratory volume in one second.

Table S3. Baseline characteristics and laboratory findings by the treatment period of systemic steroids in HRV-positive hospitalized patients with followed-up PFT.

Characteristics	Overall n=18	Steroid treatment period		p-value
		within 5 days n=8	6-8 days n=10	
Age, years[a]	10.4±2.6	10.4±3.0	10.5±2.4	0.92
Men, n (%)	11 (61.1%)	3 (37.5%)	8 (80.0%)	0.14
Treatment during a stable state, n (%)				
ICS	2 (11.1%)	1 (12.5%)	1 (10.0%)	1.00
ICS/LABA	10 (55.6%)	4 (50.0%)	6 (60.0%)	1.00
Symptom				
Wheezes, n (%)	14 (77.8%)	5 (62.5%)	9 (90.0%)	0.27
Duration of URTI symptoms before consultation, days[a]	4 (2–7)	4 (2–6)	4 (2–7)	0.96
Body temperature, °C[a]	37.3±0.9	37.1±1.1	37.4±0.7	0.54
Laboratory findings				
CRP, mg/dL[a]	0.42 (0.15–1.04)	0.28 (0.07–0.69)	0.74 (0.24–1.04)	0.53
WBC count, /μL[a]	8,549±2,667	8,492±2,892	8,594±2,632	0.94
Eosinophil count in bloods, /μL[b]	302 (68–507)	251 (54–455)	312 (93–684)	0.62
Eosinophil percentage in blood, %[b]	3.3 (1.2–6.4)	3.3 (0.9–4.7)	3.3 (1.4–8.9)	0.76
Total serum IgE, IU/mL[b]	828 (516–1,848)	842 (321–1,544)	816 (575–1,913)	0.68
Baseline lung function (pre-bronchodilator)				
FVC, L[a]	2.11±0.54	2.16±0.52	2.08±0.58	0.76
FEV1, L[a]	1.85±0.53	1.96±0.55	1.77±0.52	0.45
FEV1% predicted, %[a]	92.5±10.5	97.7±9.3	88.2±9.8	0.053
FEV1/FVC, %[a]	87.6±7.3	90.3±6.5	85.3±7.4	0.15
Hospitalisation duration, days	7 (6–8)	6 (6–8)	8 (7–9)	0.17
Rhinovirus type, n (%)				
A	11 (61.1%)	5 (62.5%)	6 (60.0%)	1.00
B	1 (5.6%)	0 (0.0%)	1 (10.0%)	1.00
C	6 (33.3%)	3 (37.5%)	3 (30.0%)	1.00

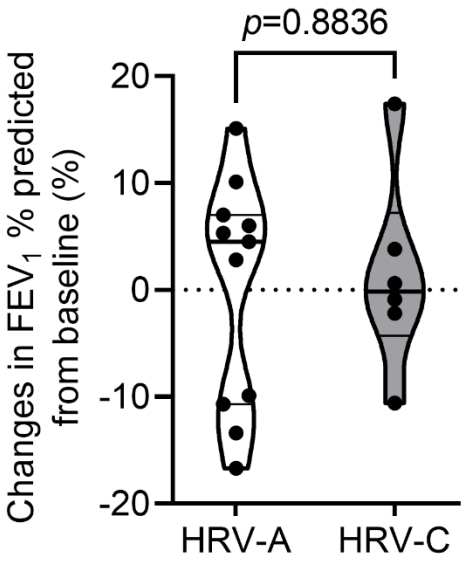
Data are the mean±standard deviation[a] and the median (interquartile range)[b]

Statistical analysis was used with t-test or Mann-Whitney U test for continuous variables, and chi-squared test or Fisher's exact test for dichotomous variable between systemic steroid treatment duration within or over 5 days.

Two were missing for total serum IgE.

Abbreviations; PFT, pulmonary function test; ICS, inhaled corticosteroids; LABA, long-acting beta2-agonist; URTI, upper respiratory tract infection; CRP, C-reactive poritein; WBC, white blood cell; IgE, immunoglobulin E; FVC, forced vital capacity; FEV1, forced expiratory volume in one second.

Figure S1. Comparison of changes in FEV_1% predicted from baseline in HRV-A-positive and HRV-C-positive patients.



Eleven HRV-A-positive and 6 HRV-C-positive patients underwent a PFT 3 months after exacerbations, and FEV_1% predicted from baseline was compared. Values are expressed as the median with an interquartile range. Differences in data were analysed by the Mann–Whitney *U*-test. FEV_1, forced expiratory volume in one second.