中文題目：類固醇與 Statin 類藥物使用於呼吸道病毒相關之下呼吸道感染：針對成人病患之回溯性研究

英文題目：Use of Corticosteroids and Statins in Respiratory Virus Related Lower Respiratory Tract Infection：A Retrospective Study in Adult Patients

作　　者：徐靖浩 [1]，陳昕白 [1,2,3]

服務單位：[1] 台北榮民總醫院內科部，[2] 台北榮民總醫院內科部感染科，[3] 國立陽明大學醫學系內科學科

Background: Corticosteroids and statins modulate proinflammatory cytokine and theoretically have benefits in severe pneumonia-related lung injury. The effect of corticosteroids in patients with influenza or non-influenza respiratory viruses (NIRVs) related lower respiratory tract infection (LRTI) remains controversial. This study aimed to describe the clinical characteristic and outcomes of LRTI associated with respiratory viruses (RVs) in adult patients.

Methods: We retrospectively reviewed the medical records of adult patients with LRTI symptoms, whose lower respiratory tract specimens, including endotracheal aspirate and bronchoalveolar lavage fluid, were positive for RVs by multiplex PCR. Underlying comorbidities, laboratory data, and clinical outcomes were also analyzed.

Results: Of the total 808 LRT samples collected from 666 adult patients, 115 (14.2%) samples from 106 (15.9%) patients had at least one RV identified. The underlying comorbidities and laboratory data were not different between patients with influenza- and NIRV-related infection. There was no difference between corticosteroids vs. non-corticosteroids group and statins vs. non-statins group in 14day (P=0.068 and P=0.618), 30-day (P=0.600 and P=0.273) and 90-day mortality (P=0.916 and P=0.927).

Conclusion: Our study suggested that corticosteroids' and statins' use did not benefit the outcome in both influenza and NIRV related LRTI.

Keywords: non-influenza-respiratory viruses, influenza, lower respiratory tract infection, corticosteroids, statins.

Table 1. Demographic characteristics, underlying medical conditions of patients with respiratory virus infections.

Characteristic	Influenza n=18 (17.0)	Rhino/Entero n=38(35.8)	Other n=40(37.7)	Coinfection n=10(9.4)	P
Male Sex	13 (72.2)	22 (57.9)	28 (70.0)	4 (40)	0.241
Age (years, mean ± SD)	67.7 ± 17.7	64.7 ± 15.5	67.4 ± 16.9	64.5 ± 17.9	0.858
Previous use of statins	4 (22.2)	3 (7.9)	7 (17.5)	1 (10.0)	0.440
Previous use of corticosteroids s	2 (11.1)	13 (34.2)	5 (12.5)	3 (30.0)	0.368
Hypertension	7 (38.9)	20 (52.6)	21 (52.5)	4 (40.0)	0.692
Diabetes	8 (44.4)	17 (44.7)	25 (62.5)	3 (30.0)	0.192
Cancer	2 (11.1)	16 (42.1)	11 (27.5)	3 (30.0)	0.121
Solid organ transplantation	0 (0.0)	3 (7.9)	4 (10.0)	1 (10.0)	0.592
Chronic kidney diseases	5 (27.8)	9 (23.7)	9 (22.5)	2 (20.0)	0.965
Chronic heart diseases	7 (38.9)	7 (18.4)	12 (30.0)	3 (30.0)	0.406
Acute cardiac events	4 (22.2)	9 (23.7)	11 (27.5)	0 (0.0)	0.332
Chemotherapy or radiation therapy in recent one month	2 (11.1)	7 (18.9)	7 (17.1)	3 (30.0)	0.658
Autoimmune diseases	2 (11.1)	7 (18.4)	3 (7.5)	1 (10.0)	0.522
Gastrointestinal and hepatobiliary diseases	6 (33.3)	14 (36.8)	11 (27.5)	0 (0.0)	0.145
Lung diseases other than cancer and pneumonia	3 (16.7)	12 (31.6)	13 (32.5)	2 (20.0)	0.554
Neurologic diseases	2 (11.1)	5 (13.2)	6 (15.0)	4 (40.0)	0.183

Data are presented as No. (%) unless otherwise specified.

Figure 1. Kaplan–Meier Curves compared with14-day, 30-day and 90-day survival rate of use steroid in disease course or not (Panel A, B, C) and use statin in disease course or not (Panel D, E, F)