**Online Data Supplement**

**The title**

Clinical features of Japanese patients with exacerbations of chronic obstructive pulmonary disease

**Authors**

Hiroki Tashiro, Yuki Kurihara, Koichiro Takahashi, Hironori Sadamatsu, Tetsuro Haraguchi, Ryo Tajiri, Ayako Takamori, Shinya Kimura, Naoko Sueoka-Aragane

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**Table E1 Comparison of clinical characteristics in COPD patients with frequent exacerbation vs those without exacerbation**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Non exacerbator** | **Frequent exacerbator** | **p value** |
| **n** | 393 | 27 |  |
| **Age (years)** | 71.6 ± 0.4 | 71.7 ± 0.4 | 0.94 |
| **BMI (Kg/m2)** | 22.1 ± 0.2 | 19.0 ± 0.8 | <0.01 |
| **Smoking history (pack-year)** | 58.9 ± 1.6 | 67.3 ± 7.5 | 0.19 |
|  |  |  |  |
| **Comorbidity** |  |  |  |
|  **Hypertension** | 185 (47.1%) | 12 (44.4%) | 0.8 |
|  **Diabetes mellitus** | 77 (19.7%) | 8 (29.6%) | 0.24 |
|  **Hyperlipidemia** | 60 (15.4%) | 3 (11.1%) | 0.54 |
|  **Cardiovascular disease** | 60 (15.4%) | 8 (30.7%) | 0.07 |
|  |  |  |  |
| **COPD assessment test** | 10.3 ± 0.5 | 20.0 ± 1.7 | <0.01 |
|  |  |  |  |
| **Laboratory data** |  |  |  |
|  **White blood cell (/ml)** | 6652.4 ± 82.4 | 6296.3 ± 387.1 | 0.27 |
|  **Blood eosinophil (%)** | 2.73 ± 0.11 | 3.76 ± 0.55 | 0.02 |
|  **Blood eosinophil count (/ml)** | 175.4 ± 7.4 | 233.4 ± 37.4 | 0.05 |
|  **Serum albumin (g/dl)** | 3.81 ± 0.02 | 3.62 ± 0.09 | 0.04 |
|  |  |  |  |
| **Pulmonary function test** |  |  |  |
|  **VC (L)** | 3.16 ± 0.04 | 2.73 ± 0.14 | <0.01 |
|  **FVC (L)** | 3.02 ± 0.04 | 2.52 ±0.13 | <0.01 |
|  **FEV1.0 (L)** | 1.66 ± 0.03 | 1.05 ± 0.09 | <0.01 |
|  **FEV1.0/FVC (%)** | 54.4 ± 0.0 | 42.2 ± 2.6 | <0.01 |
|  **%FEV1.0 (%)** | 75.4 ± 1.1 | 48.0 ± 3.5 | <0.01 |
|  **DLco (%)** | 71.0 ± 2.3 | 59.3 ± 6.3 | 0.13 |
|  |  |  |  |
| **TRPG (mmHg)** | 27 ± 1.1 | 42.6 ± 4.5 | <0.01 |
|  |  |  |  |
|  **Long-term oxygen therapy** | 20 (5.1%) | 21 (77.8%) | <0.01 |
|  **LAMA** | 176 (45.1%) | 20 (74.1%) | <0.01 |
|  **LABA** | 155 (39.7%) | 22 (81.5%) | <0.01 |
|  **ICS** | 73 (18.7%) | 12 (44.4%) | <0.01 |
|  **Macrolide** | 27 (7.0%) | 13 (48.1%) | <0.01 |
|  **β blocker** | 37 (9.5%) | 4 (14.8%) | 0.4 |

COPD; chronic obstructive pulmonary disease, BMI; body mass index, VC; vital capacity, FVC; forced vital capacity, FEV1.0; forced expiratory volume in 1.0 second, DLco; diffusing capacity of lung for carbon monoxide; TRPG; transtricuspid pressure gradient, LAMA; long acting muscarinic antagonist, LABA; long acting β2 adrenergic agonist,

ICS; inhaled corticosteroid. Data are presented as mean ± standard deviation.

**Table E2 Multivariate analysis of the clinical characteristics in COPD patients with frequent exacerbation vs those without exacerbation**

|  |  |
| --- | --- |
| 　 | **Multivariate analysis** |
| **Adjusted OR or β** | **95% CI** | **p value** |
| **BMI** | 0.96 | 0.65-1.38 | 0.83 |
| **COPD assessment test** | 1 | 0.87-1.16 | 0.98 |
| **Blood eosinophil (%)** | 1.64 | 1.12-2.64 | 0.02 |
| **Serum albumin (g/dl)** | 0.14 | 0.01-1.29 | 0.08 |
| **%FEV1.0 (%)** | 0.01 | 0.0000061-6.38 | 0.2 |
| **Long-term oxygen therapy** | 37.09 | 3.95-348 | <0.01 |
| **LAMA** | 2.06 | 0.1-40.94 | 0.64 |
| **Macrolide** | 2.39 | 0.24-24.05 | 0.46 |

OR; odds ratio, β; standardized β value, CI; Confidence interval, BMI; body mass index, FEV1.0; forced expiratory volume in 1.0 second