Previous studies reported that Moraxella catarrhalis (M. catarrhalis) was one of the main pathogens of community-acquired pneumonia (CAP); however, recent meta-analysis revealed the frequency of CAP due to M. catarrhalis (MCAP) in Japan was only 1.9% (58 of 3077 patients). In fact, only a few case reports describing MCAP have been published until now, and the data regarding clinical features of MCAP is still limited, particularly in our country.

METHODS: The primary objective of this retrospective study was to determine the clinical characteristics of patients with MCAP. Patients aged over 20 hospitalized between April 2014 and March 2018 were enrolled. We also analyzed the clinical difference between MCAP and CAP caused by S. pneumoniae (SCAP) to elucidate the clinical characteristics and risk factors of MCAP in adults. Patients with bed-ridden status, residents in nursing home, more than two microorganisms detection from sputum, and absence of infiltration on chest x-ray were excluded.

RESULTS: During the study period, 114 MCAP were identified and most patients visited in the winter season (59%). Fifty-four percent of the patients were men the median age was 81 years old (range; 21 to 97). According to Japanese pneumonia severity scoring system (A-DRIP) and qSOFa, general status was mild (score < 2 was 65.7%) and without having sepsis (score 52 was 95.6%), respectively. The average treatment duration and hospitalized period were 7 and 9 days.

Compared to SCAP (n = 107), MCAP had significantly higher pulmonary underlying diseases such as bronchiectasis (p < 0.01), asthma (p < 0.05), interstitial pneumonia (p < 0.05), and lung cancer (p < 0.05), home oxygen therapy (p < 0.01), and systemic disease (p < 0.05). In radiological findings, bronchopneumonia pattern was predominant in MCAP group than PCAP group (p < 0.01). On the other hand, developed a chill, comorbid systemic disease, and C-reactive protein (CRP) > 10 mg/L were the factors that influence the outcome of MCAP patients. However, there was no significant difference on the mortality rate between two groups (p = 0.66 and 0.55, respectively). All patients recovered with good prognosis in both groups.

CONCLUSION: The characteristics of MCAP were as follows:

1. Mainly occurred in elderly patients with pulmonary and systemic diseases.
2. Presented with relatively mild symptoms without sepsis.
3. Bronchopneumonia pattern was predominant.
4. Having benign prognosis.

Conflict of interest; The authors state that they have no conflict of interest.