

## **COPD 2019: Efficacy and clinical outcomes of systemic and inhaled steroid for patients with community-acquired pneumonia Cipto Mangunkusumo National General Hospital (RSCM) Jakarta**

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Community-Acquired Pneumonia (CAP) is one of the top leading causes of morbidity and mortality worldwide. CAP also becomes the sixth most prevalent cause of overall mortality in adults. Corticosteroids are known to be the most potent anti-inflammatory drugs and have physiologic rationale for their use in patients with infection. Its efficacy in the treatment of CAP is still debatable. The objective is study to evaluate the efficacy and clinical outcomes of systemic and inhaled steroid therapy for patients with community-acquired pneumonia. Method: We used four databases for literature searching process, Pub med, EBSCO, Pro Quest and Science Direct, which selected articles are those therapeutic studies with relevant clinical question and met the inclusion-exclusion criteria. Critical appraisal was performed by assessed its validity, importance, and applicability based on Oxford Center of Evidenced-Based Medicine 2011. Results: Three retrieved articles feature cohort studies. Two studies conducted systemic steroid therapy research which other conducted inhaled steroid. Two of three articles show steroid therapy was associated with lower mortality and shorter clinical stability.

Conclusion: We suggested that steroid therapy, both systemic and inhaled steroids help hasten clinical recovery, prevent pneumonia-related complication, lower mortality and reduction in the duration of mechanical ventilation and length of hospital stay. Community acquired pneumonia (CAP) is one in every of the leading causes of morbidity and mortality worldwide [1]. In developing countries, CAP becomes the sixth most frequent explanation for general mortality in adults. In 2004, approximately 10% of adult mortality in geographic region is caused by a tract infection, mainly by a lower tract infection [2]. In Indonesia, CAP is that the favored explanation for mortality in children and also the sixth mortality in adults. supported Riskesdas (Indonesian Basic Health Research) in 2013, both the incidence and

prevalence of pneumonia in Indonesia are 1.8% and 4.5% [3]. Despite notable advances in etiologic research, antimicrobial therapy, and supportive measurement, mortality in these patients remains 30% to 50% [2,4]. Therefore, additional potential approaches are needed to get better ends up in severe CAP. Recent studies found that the extent of proinflammatory cytokines like interleukin (IL) -6, IL-8, IL-10, IL-1 $\beta$ , tumor necrosis factor alpha and interferon gamma increased significantly in patients with severe CAP and was correlated with NAC severity. and results. Corticosteroids are known to be the foremost powerful inflammatory inhibitors. They inhibit the expression of proinflammatory cytokines. The immunomodulatory and anti inflammatory pharmacodynamic profile is that the physiological reason for its use in patients with CAP. Corticosteroid therapy is usually used as a treatment for chronic obstructive pulmonary disease (COPD). Its role within the treatment of CAP remains controversial. In some clinical trials, corticosteroid therapy in patients with CAP is thought to be effective in reducing clinical stability time and length of hospital stay. Other trials showed that steroid therapy correlates with a lower fatality rate in patients with severe CAP because it can reduce the excessive inflammatory response within the airways [2,5]. However, an outsized observational study found that corticosteroids had a possible survival advantage in patients with septic shock, complicating CAP [5]. Therefore, the findings showing that corticosteroids reduce mortality could also be thanks to over-inclusion of patients with septic shock or with other conditions known to profit from corticosteroid treatment, including COPD and asthma [6]. Additionally, this study aims to assess the efficacy and clinical outcomes of corticosteroid therapy, both systemic and inhaled, in patients with community-acquired pneumonia.

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