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Ideal Strategy of Asthma Treatment Focused on the Adherence of Inhaled Corticosteroids

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Asthma and adherence to treatment

Asthma, a chronic inflammatory airway disease with a high prevalence is a major cause of disability and health resource utilization, and reduces quality of life. This is partly caused by asthma exacerbations, which have a huge impact on patients and their families. To minimize asthma exacerbations, treatment should be adjusted stepwise, driven by the patient's asthma control level. Asthma treatment includes daily use of a controller drug and use of short-acting bronchodilators when needed for quick symptom relief. Adherence to treatment is essential to optimize the benefits of therapy. Poor adherence has been associated with outcomes like mortality, asthma symptoms, direct and indirect costs of care and quality of life.

Poor adherence to inhaled corticosteroids

The introduction of inhaled corticosteroids (ICS) as the primary treatment for asthma has led to substantial improvements in asthma control. However, uncontrolled asthma is still common and represents a considerable burden to patients and society. As mentioned before, poor adherence is thought to be one of the reason. For example, it has been suggested that poor adherence to ICS increases the risk of exacerbations. Rates of adherence to ICS were estimated to be <50% in children and 30–70% in adults, depending on country, age, sex and ethnicity. These low adherence rates have been attributed to safety concerns about ICS ("steroid phobia") by both the patients and the caregivers. Indeed, use of ICS has been associated with growth impairment in children and other systemic adverse effects, such as an increased risk of pneumonia. In addition, most ICS need to be administered twice daily,

which increases the risk of poor adherence compared with once-daily administration.

Advantage of once-daily medication

Currently, a once-daily medication [fluticasone furoate (FF) 100 or 200μg or fluticasone furoate/vilanterol (FF/VI) combination (100/25 or 200/25μg)] for asthma treatment is available in practice. In a tightly controlled randomized controlled trial setting, once-daily FF/VI provided similar asthma control over 24 weeks to usual, twice-daily ICS/long-acting beta2 agonist (LABA) in patients with asthma that was uncontrolled on ICS alone. In addition, The Salford Lung Study in Asthma, a 12-month, open-label randomized controlled trial conducted in UK primary care, compared the effectiveness and safety of initiating FF/VI versus continuing usual care in patients with symptomatic asthma. The trial incorporated a number of patient-reported outcomes effectiveness endpoints. Intuitively, a once-daily medication is thought to be effective in increasing adherence to ICS. Recent observations support this. In a retrospective observational cohort study consisted of 1,725 patients in US, investigators compare similar patients with asthma initiating FF/VI or budesonide/formoterol (BUD/F) on measures of adherence, persistence, and the asthma medication ratio. They found that adherence and treatment persistence were low in both cohorts; however, patients initiating once-daily FF/VI were more likely to be adherent, have an AMR of greater than or equal to 0.5, and were less likely to discontinue therapy compared with patients initiating twice-daily BUD/F. A non-interventional, retrospective, cohort study of patients using data from the Japan Medical Data Center Claims Database showed that once-daily FF/VI was associated with higher medication adherence compared with twice-daily propionate/salmeterol.

Conclusion

Higher levels of adherence were associated with a reduced risk of severe asthma exacerbations and improvement of asthma control. Recent evidences illustrate how once-daily medication could improve adherence and future asthma exacerbation risk relative to a twice-daily alternative. Future research could explore how patient preferences for treatment regimens and delivery devices are related to treatment adherence and outcomes as well as treatment effectiveness in certain subgroups.

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