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Editorial

Asthma is now one of the most common chronic diseases in westernized countries and is characterized by reversible airway obstruction, bronchial hyperresponsiveness, and airway inflammation. Key pathological features include: infiltration of the airways by activated lymphocytes and eosinophils; damage to, and loss of, the bronchial epithelium; mast cell degranulation; mucous gland hyperplasia; and collagen deposition in the epithelial sub-basement membrane area. Presently, antiinflammatory therapy in asthma is largely reliant on corticosteroids, particularly in their inhaled form, and their use is associated with a striking reduction in the numbers of activated eosinophils, mast cells, and T cells in vivo. For the majority of patients, corticosteroids are effective at suppressing airway inflammation and the associated re-modelling of the airways that leads to progressive and irreversible loss of lung function. In his overview, Olof Selroos (2007) describes the various treatment options for the use of inhaled corticosteroids therapy in asthma with an emphasis on Symbicort SMART® (Symbicort Maintenance and Reliever Therapy). This consists of a budesonide–formoterol combination enabling patients to use one inhaler for both maintenance and reliever therapy. Benefits of the use of a combined corticosteroids–long-acting β2-agonist bronchodilator in the one inhaler include reductions in the rate of asthma exacerbations and maintenance of day-to-day asthma control at a reduced load of corticosteroids when compared with higher fixed maintenance doses of combination inhalers. However, although corticosteroids are usually efficacious, they may not be of benefit to patients with severe asthma who experience virally-induced exacerbations of their disease. Their use also raises concerns regarding side-effects and compliance particularly in children and adolescents. Furthermore, even in cases of good compliance for corticosteroid usage, patients with moderate and severe asthma may experience significant residual symptoms including exacerbations of their disease that in some cases can be life-threatening (Holtzman 2003). There remains an urgent need for the development of more targeted, effective, and safe therapy for asthma.

Asthma pathology is associated with the release of myriad pro-inflammatory substances including lipid mediators, inflammatory peptides, chemokines, cytokines, and growth factors. As many mediators contribute to the pathophysiology of asthma, the development of specific antagonists directed at these substances represents an attractive target for inflammation resolution. However, it is unlikely that a single antagonist will have a major clinical effect compared with nonspecific agents such as corticosteroids. Indeed, strategies to block a single mediator such as platelet-activating factor antagonists, thromboxane inhibitors, and bradykinin antagonists have all proved to be disappointing. However some specific inhibitors, notably cysteinyl leukotriene antagonists, have had promising clinical effects (Walsh 2005). The cysteinyl leukotriene receptor antagonists were the first new class of anti-asthma drugs to be introduced in the last 30 years and are now an established part of the asthma armamentarium. Overall, they are less effective than inhaled corticosteroids, but some patients show a striking improvement and a corticosteroid-sparing effect has been demonstrated. It is of interest therefore that Lagos and Marshall (2007) have reviewed the use of the cysteinyl leukotriene antagonist montelukast in the treatment of seasonal allergic rhinitis (SAR). The authors conclude that montelukast confers comparable benefit to that

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given by antihistamines in SAR and that both drugs are more efficacious when given together. In some cases the efficacy of combined therapy in the treatment of SAR approaches that of nasal steroids. However the author acknowledges that more research is required in order to determine the efficacy of montelukast in treating perennial allergic rhinitis but early indications do indicate a likely favorable profile. Finally, montelukast may be the treatment of choice for SAR in those patients with concomitant asthma.

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