a generally safe form to administer. Minor side effects may include epigastric or facial warmth, flushing, pain and numbness at the infusion site, dry mouth, and malaise.[14] An excessive intake of dietary Mg is not likely to cause toxicity except in the case of individuals with renal impairment, due to the ability of the kidneys to remove Mg rapidly so that significant serum increases cannot occur.[12]

Recommendations

Asthma therapy is assessed by symptoms, exacerbations, and measure of lung function. These are important as different means of guiding treatment and have shown positive benefits on outcome measures.[2] Bronchial challenge testing, for example, is a measure of airway smooth muscle reactivity that has been used for many years as a diagnostic test for asthma.[8] Functional assessments such as measurement of PEF or FEV1, with close monitoring of these parameters, provide a useful and objective guide to estimate severity and clinical response to therapy or intervention. A peak flow test measures how fast one can breathe out; it is also known as a peak expiratory flow (PEF). This test is highly recommended to help diagnose asthma, but also to check the response to treatment or to help patients recognize when their asthma condition is worsening. PEF should be monitored regularly to be useful, and it is important to use a consistent device to compare values.[4] More recently, a new diagnostic tool has identified that some asthmatics are unlikely to respond to steroid inhalers. A new "inflammometry" test measures the amount of NO in exhaled air. NO levels help to identify whether the asthma results from eosinophilic or neutrophilic airway inflammation.[4] When NO levels are low, the patient is very unlikely to respond to inhaled steroids. This is a huge breakthrough in determining the most effective form of treatment on an individualized basis. In addition, regular visits to the doctor are highly recommended not only during asthma exacerbation but also because most cases of asthma change over time.

Conclusion

Asthma is complex with a large variety of possible causes and, unlike many other diseases that are mainstream, the death rate is modest with 4000 deaths per year.[4] Even though most asthmatics do not die as a result of the disease, they spend a large part of their daily lives coping with the symptoms.

Despite the overwhelming prevalence of the asthma and the suffering that it causes, relatively incremental progress has been made toward improving treatment, understanding the cause, prevention and finding a cure. Until the complete etiology of asthma is discovered, the general agreement appears to be that nutrition assessment and therapy recommendations include individualized evaluation for environmental triggers; a diet of wholesome foods to provide optimal energy and a balance of nutrients and phytonutrients; careful adherence to medications; frequent monitoring to maintain healthy pulmonary status; and education of the patient, family, and community.

Research results remain inconsistent but encouraging, and food and individual nutrients continue to be studied for possible roles in the etiology or treatment of asthma. Because oxidative stress plays a key role in the progression of the inflammatory response in asthma, it has been proposed that up to 2g/day of antioxidants such as vitamin C may represent an effective strategy in the treatment of the disease. In the same manner, essential fatty acids have shown to be protective and therapeutic against inflammation associated with asthma, when consumed in the correct ratio of omega-6 to omega-3. Finally, in addition to Mg-rich foods such as kelp, nuts, legumes, or whole grains, oral magnesium supplementation up to 280mg/d or injected magnesium sulfate of 25g/day can improve bronchial airflow.

Current asthma therapy is highly effective in the majority of patients. However, patients with acute severe asthma with increased episodes of exacerbations are often poorly controlled on maximal doses of prescribed medical treatments, none of which are disease modifying or curative for asthma. This poses the need for the development of new treatments or adjunctive nutritional therapies for targeting specific physiological processes involved in the pathogenesis of the disease. Therefore, multinutrient supplementation through synergistic effects may more effectively improve the pathological features of asthma.

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