

Correspondence

How obesity and bariatric surgery can affect asthma control

To the Editor:

We read with much interest the recently published article “Effects of obesity and bariatric surgery on airway hyperresponsiveness, asthma control, and inflammation” by Dixon et al.¹ At this juncture, we wish to share a few scientific facts on the published article.

The inference drawn by the concluding part of the article that asthma patients with normal IgE levels show significant improvement in airway hyperresponsiveness (AHR) following bariatric surgery is questionable. Weight reduction is the cornerstone of therapy in obstructive sleep apnea (OSA). Nine of the 23 subjects with asthma in this study had coexisting OSA. We believe that the overall improvement in the underlying OSA could have contributed to the favorable changes in the individual parameters of the lung function test such as forced expiratory volume in 1 second and forced vital capacity. The coexistence of OSA is a definite confounding factor. More evidence is needed to validate the conclusion stated in this study. A subanalysis of the subjects without OSA would be helpful. The serial lung function test in the subjects without OSA is more reflective of changes in AHR. Furthermore, despite improvement in the lung function test, there was no parallel reduction in the requirement of medication for asthma. Apart from short-acting beta-agonist, the reduction in the use of other medications postsurgery failed to achieve statistical significance.

The bariatric surgery was more beneficial to subjects with normal IgE levels. Allergic bronchopulmonary aspergillosis and chronic inflammatory lung diseases such as bronchiectasis, pulmonary tuberculosis, and pulmonary mycosis are associated with raised circulating IgE levels.² These conditions should have been excluded in all subjects. Without specific targeted treatment such as high-dose steroids, antituberculous therapy, or antifungal agents, these conditions are unlikely to improve. This could be a possible explanation for the positive study findings being confined to subjects with normal IgE levels.

The effect of bariatric surgery in improving cardiovascular outcome is indisputable.³ Even then, there is lack of convincing

evidence to include asthma as an indication for this treatment modality. A recent British article also reported the rise in incidence of the complications following bariatric surgery.⁴ Could the age factor of the subjects influence the results of the present case? Another important fact to ponder is the role of the nervous system in relation to respiratory distress and AHR.

In the future, it would be more interesting for researchers to observe the correlation between weight loss through antiobesity drugs and control of asthma. Bariatric surgery results in drastic weight reduction. We wonder whether modest weight reduction through other measures would yield similar results. Serial bronchodilator reversibility testing is an additional investigation to help determine the relationship between AHR and weight loss.

Antitumor necrosis factor drugs and other biologic agents are being widely prescribed in autoimmune diseases such as rheumatoid arthritis, inflammatory bowel disease, and psoriasis. We feel that the data from this study should encourage chest physicians to explore further and experiment with the use of this group of immunomodulators in treating asthma. We applaud the meticulous work by the authors and thank the editor for publishing such interesting and informative articles.

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