Sir,
A 68-year-old man with chronic obstructive pulmonary disease (COPD) maintained on salbutamol inhaler, was commenced on nebulised salbutamol and ipratropium bromide (IB) for acute exacerbation of COPD. He developed haemorrhagic bullae affecting his hard palate [Figure 1] within 24 hours of starting IB. The patient told us that he had developed similar lesions when he had nebulised IB (Atrovent) one year ago for exacerbation of COPD. He was a fit man and had no history of hypertension or diabetes. He had no blood dyscrasia and was not on any anti-coagulation. IB was withdrawn and he was treated with salbutamol alone. The bullous lesions improved within 48 hours of stopping IB and healed completely within a week.

Skin and mucous membrane are very common sites involved in any adverse drug reaction ranging from mild skin rash to Stevens-Johnson syndrome. Angina bullosa haemorrhagica (ABH), however, is a benign condition characterized by acute blood blisters affecting the palate and the lesions heal spontaneously within a week. The pathogenesis is unknown.
and possible etiological factors are diabetes, hereditary predilection, local trauma and drugs including inhaled medications.\textsuperscript{1,2}

Ipratropium bromide (Atrovent) is a commonly and widely used antimuscarinic bronchodilator with very few side-effects.\textsuperscript{3} Although buccal ulceration\textsuperscript{4} and haemorrhagic bullae affecting the palate\textsuperscript{3} have been reported with ipratropium bromide (IB) they do not appear in the British National Formulary\textsuperscript{3} and are not mentioned in the manufacturer’s (Atrovent) product information either. Therefore, we believe not many physicians would be aware of these rare adverse effects of IB.

Our patient developed haemorrhagic bullae affecting his palate after being commenced on nebulised IB; he had developed similar lesions in the past after receiving treatment with IB; the lesions healed completely after withdrawing IB; and there was no alternative cause for such reaction in our patient. On Naranjos adverse drug reaction (ADR) algorithm,\textsuperscript{6} this scored 6, classifying it as a probable ADR.

Appearance of any blistering lesions can be alarming due to various differential diagnoses, including serious systemic diseases. However, adverse drug reaction and ABH should be considered in patients developing haemorrhagic bullae affecting palate while receiving treatment with ipratropium bromide and other inhaled drugs.

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**References**