

Case Letter

Vibratory Angioedema in a Trumpet Professor

To the Editor:

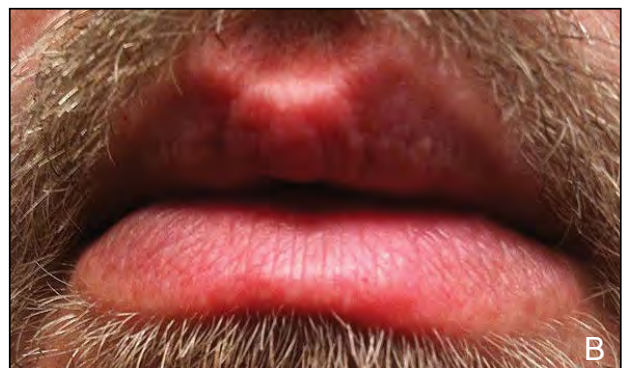
We present a case of a 38-year-old man, a trumpet professor, who reported pain, swelling, and redness of the upper lip within 20 minutes of playing the trumpet over the last 3 years. No symptoms were noted in his 20-year career. Tingling, swelling, and pain resolved within minutes, hours, and one day of playing the instrument, respectively. Symptoms began shortly after he stopped taking cimetidine for gastroesophageal reflux disease. The severity of symptoms forced the patient to decrease his practice time from 8 hours to less than 20 minutes daily. Changing the mouthpiece from brass to stainless steel or plastic yielded no benefit. The patient also described symptoms of hand swelling after using the lawn mower.

Initial examination was negative, but after several minutes of playing the trumpet, erythema and edema of the central upper lip and philtrum were present (Figure). The patient performed a vibratory test by placing his forearm on a vibrating vortex mixer, resulting in symptoms of tingling, swelling, redness, and mild pain on the forearm after 5 minutes of exposure, which was consistent with a positive test. The patient was treated with a variety of oral medications, including cetirizine, hydroxyzine, cimetidine, doxepin hydrochloride, loratadine, montelukast, cromolyn, and 10 days of prednisone. Only prednisone was considered moderately helpful. Doxepin hydrochloride cream 5% applied to the lips 1 hour before playing the trumpet resulted in mild improvement.

This case is a unique presentation of vibratory angioedema of the lip after playing the trumpet. Vibratory angioedema is characterized by pruritus

and swelling after application of a vibratory stimulus. Symptoms tend to appear within minutes and resolve approximately 30 minutes after the stimulus is taken away.¹ In 2009, a case of vibratory angioedema of the lower lip was reported in a professional saxophone player.² Unlike woodwind musicians, brass musicians rely on their vibrating lips to generate sound. To diagnose vibratory angioedema, pressure urticaria should be excluded. Lack of symptoms when the mouthpiece was placed in between the lips without playing the trumpet ruled out pressure urticaria in our patient.

Diagnosis of vibratory angioedema is made by placing the patient's arm on a vortex mixer for 5 minutes.³ A small study looked at 20 healthy



The upper lip before (A) and 45 minutes after playing the trumpet (B).

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volunteers who were subjected to vibratory stimuli using a vortex mixer for 5 minutes, and 7 patients developed a positive response. The study questioned the specificity of the vortex test in the diagnosis of vibratory angioedema.⁴

The pathogenesis of vibratory angioedema remains unclear, but the role of mast cells and histamine has been suggested, leading to the use of antihistamines for treatment.⁵⁻⁸ In our patient, the cessation of cimetidine, an H₂ receptor blocker, could have unmasked the vibratory angioedema; however, the use of a variety of antihistamines led to minimal improvement. Avoidance of the offending trigger is a treatment option; however, it was not practical in our case because our patient's profession required playing the trumpet.

Further investigation is needed to determine the exact pathogenic mechanisms to identify a more appropriate treatment of vibratory angioedema.

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REFERENCES

1. Dice JP. Physical urticaria. *Immunol Allergy Clin North Am.* 2004;24:225-246, vi.
2. Patruno C, Ayala F, Cimmino G, et al. Vibratory angioedema in a saxophonist. *Dermatitis.* 2009;20:346-347.
3. Kontu-Fili K, Borici-Mazi R, Kapp A, et al. Physical urticaria: classification and diagnostic guidelines an EAACI position paper. *Allergy.* 1997;52:504-513.
4. Mathelier-Fusade P, Vermeulen C, Leynadier F. Vibratory angioedema [in French]. *Ann Dermatol Venereol.* 2001;128:750-752.
5. Keahey TM, Indrisano J, Lavker RM, et al. Delayed vibratory angioedema: insights into pathophysiologic mechanisms. *J Allergy Clin Immunol.* 1987;80:831-838.
6. Ting S, Reimann BE, Rauls DO, et al. Nonfamilial, vibration-induced angioedema. *J Allergy Clin Immunol.* 1983;71:546-551.
7. Black AK. Mechanical trauma and urticaria. *Am J Ind Med.* 1985;8:297-303.
8. Lawlor F, Black AK, Breathnach AS, et al. Vibratory angioedema: lesion induction, clinical features, laboratory and ultrastructural findings and response to therapy. *Br J Dermatol.* 1989;120:93-99.