

Acute Angioedema After Ketorolac Ingestion: Report of Case

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Acute angioedema, also called angioneurotic edema, is an allergic reaction characterized by swelling of the skin and subcutaneous tissues that commonly affects the extremities and face, particularly the area around the eyes and lips.¹ Foods, food additives, and drugs, especially antibiotics, are the most common cause of the reaction. Nonsteroidal anti-inflammatory drugs (NSAIDs) can also trigger this condition.² This is the first reported case of acute angioedema after ingestion of ketorolac, an NSAID.

Report of Case

The patient was a 73-year-old white man with severe swelling of the cheeks and lips of approximately 7 hours duration (Fig 1A). His past medical history revealed that he had rheumatic fever as a child and rheumatoid arthritis in adulthood for which he had been taking diclofenac regularly for several years. He recently had discontinued this medication and had been given a prescription for Ketorolac by his orthopedic surgeon, which he had started taking approximately 3 days earlier. He was not taking any other medications. The severe facial swelling occurred approximately 1 hour after taking his morning dose of ketorolac on the third day and worsened as the day progressed. Assuming it was of periodontal origin, he came to the office where the problem was recognized as nondental and he was referred to the hospital emergency room.

By the time the patient reached the emergency room, he reported difficulty breathing and was treated for acute angioedema with .3 mL of epinephrine (1:10,000) intravenously, 50 mg diphenhydramine intravenously, and 8 mg dexamethasone intramuscularly. He was also given a prescription for diphenhydramine 25 mg orally 3 times a day for 3 days. He recovered without incident and there was no evidence of swelling when seen 3 days later (Fig 1, bottom).

Discussion

Angioedema refers to a group of allergic disorders with varying etiology but similar clinical appearance.

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It is characterized by one or more localized swellings affecting the skin and/or mucous membranes, usually without pain, itching, or redness. Symptoms may appear within minutes and may last for several hours.³

Angioedema can be hereditary or acquired. The hereditary form is a non-sex-linked, autosomal dominant trait that affects heterozygotes. It often involves the upper respiratory and gastrointestinal tract, and is frequently precipitated by minor trauma, such as a dental extraction. Laryngeal edema may lead to airway obstruction and death. Acquired angioedema includes those cases caused by physical agents such as cold, exercise, sun exposure, and drugs. Drug-induced angioedema can be triggered by antibiotics, such as penicillin, and NSAIDs, such as aspirin and related drugs.^{4,5}

Although the mechanism causing angioedema is not clear, it is thought that NSAIDs inhibit cyclooxygenases leading to mast cell degranulation and eventually causing vasodilation and edema.⁶ Braga et al examined 251 patients affected by drug-induced angioedema and found that 74% of them reacted to NSAIDs, with aspirin being the most frequently involved drug.⁷

The most common adverse side effect of NSAIDs is gastrointestinal, ranging from heartburn, dyspepsia, and stomach discomfort, to potentially life-threatening gastrointestinal erosion, ulceration, and perforation. NSAIDs also can cause hematologic disorders such as thrombocytopenia, agranulocytosis, aplastic anemia, and hemolytic anemia, as well as a wide range of renal diseases, including renal insufficiency, nephritis, renal papillary necrosis, glomerulonephritis, and obstructive nephropathy.⁵

Prevention of adverse side effects with any of the NSAIDs should include a thorough medical and drug history to determine underlying predisposing factors such as preexisting gastrointestinal disease or prior adverse reaction to similar drugs. If left untreated, angioedema is potentially fatal; therefore, treatment should begin immediately. The patient in this case report was taken to an emergency room and appropriate medications were used.

Ketorolac is a relatively new NSAID that is available in injectable and oral preparations. It is indicated for short-term management of pain and is not recom-

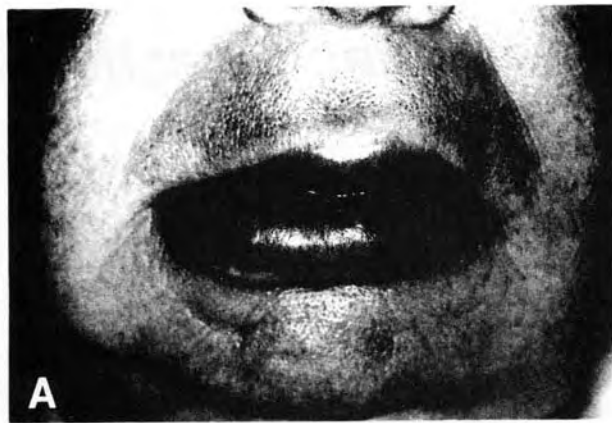


FIGURE 1. A, Appearance of the patient during emergency visit. B, Appearance of the patient 3 days after emergency visit.

mended for use longer than 5 days because of the possibility of increased frequency and severity of adverse reactions (Toradol [Ketorolac tromethamine] product monograph, Syntex Laboratories, Inc, Palo Alto, CA).

NSAIDs are commonly used, and the clinician must be aware that their use may be accompanied by adverse reactions, some of which can be serious.^{8,9}

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