Allopurinol and Enalapril
Drug Induced Anaphylactic Coronary Spasm and Acute Myocardial Infarction

To the Editor:

A 50-year-man with a 10-year history of hypertensive cardiovascular disease and gout was admitted to the hospital because of a severe allergic reaction. Apart from mild uremia and carbohydrate intolerance, he had no other serious disease.

He had been prescribed enalapril, which is an angiotensin-converting enzyme (ACE) inhibitor, and furosemide to control his conditions. When acute gout developed, 100 mg of allopurinol daily was prescribed by his family physician. Within 20 min of taking one 100 mg tablet of allopurinol, he had generalized pruritus, urticaria, severe chest pain, severe nausea, peripheral cyanosis, hypotension, sinus tachycardia, and mild bronchospasm. Symptoms of anaphylaxis were alleviated by appropriate emergency measures. Serial electrocardiograms and cardiac enzyme studies revealed evidence of acute myocardial infarction.

He was referred for cardiac catheterization; results of both the left and right coronary angiograms were normal. Ergonovine did not provoke a spasm. The clinical course was uneventful and the patient was discharged and continued taking enalapril and nitrates but not allopurinol. It seemed that this patient developed anaphylaxis and severe coronary spasm, culminating in infarction due to the concomitant administration of enalapril and allopurinol.

Coronary vasoconstriction and spasm are well-established features of anaphylaxis.1-4 The coronary vasoconstriction may be the result of the stimulation of coronary histamine H1 receptors, release of vasoconstrictive metabolites of arachidonic acid such as thromboxane A2, or a combination of both of these mechanisms.4

It has been known that captopril, an ACE inhibitor like enalapril, has a sulfhydryl group, as well as a high risk of a hypersensitivity reaction when administered with allopurinol, especially in chronic renal failure.4 Also, cyclooxygenase inhibitors such as indomethacin seem to block the effect of enalapril5 and bumetanide.6

This case report suggests that allopurinol in combination with enalapril may have caused a hypersensitivity reaction. This patient had been taking enalapril without any problem, and then the ingestion of allopurinol and subsequent immediate anaphylaxis suggests this potentially dangerous drug interaction.

Saeed Ahmad, MBBS, FCCP, Cardio-Diagnostic Clinic, Fairmont, West Virginia

References
3 Ahmad S. Severe coronary spasm during zomepirac-induced allergic reaction. South Med J 1984; 77:938

Clinical Trials Needed for Alpha1-Antitrypsin Replacement Therapy

To the Editor:

We read with interest the article by Barker and Colleagues (CHEST 1994; 105:1406-10). Although anecdotal, we would like to share our experience with alpha1-antitrypsin (AAT) replacement therapy in our first two subjects. Both patients are life-long nonsmokers with PiZ phenotype AAT deficiency and chronic airflow limitation, which was progressive and severe at initiation of therapy. They have been receiving replacement therapy (60 mg/kg/wk IV) for 5 and 4 years respectively, with trough serum

![Graph showing FEV1 (L) over years with asterisks indicating significance.](http://journal.publications.chestnet.org/pdfaccess.ashx?url=/data/journals/chest/21718/)