

HOSPITAL PHYSICIAN®

INTERNAL MEDICINE BOARD REVIEW MANUAL

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Management of Acute and Chronic Gout

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Table of Contents

Introduction	2
Workup of Gout	2
Treatment of Acute Gout	4
Etiology of Gout	7
Treatment of Chronic Gout	9
Solid Organ Transplantation and Gout	15
Pseudogout	16
Conclusion and Future Directions	17
Summary Points	18
References	19

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Management of Acute and Chronic Gout

Peter J. Kim, MD, and Jonathan S. Coblyn, MD

INTRODUCTION

Gout has been known since the time of Hippocrates, and despite increasing knowledge of this common disease, it continues to be a problem to this day. The term gout derives from the Latin root *gutta*, meaning *drop*, and dates back to when the humoral theory of disease was prevalent. Gout was believed to be caused by the dropping of bad humors into the joint, causing inflammation and pain. Theories about the cause of gout have evolved over the years, reflecting the prevailing cultural, religious, socioeconomic, and scientific views of the period. An association with alcohol and “rich foods” such as meats and seafood has been known for centuries, and recent epidemiologic studies have brought about a more detailed understanding of this relationship. The link between uric acid and gout has been known for over 250 years, and colchicine has been used for the treatment of gout since the 6th century.¹ Recent scientific studies have also shed light on the molecular events underlying the inflammation caused by uric acid crystals.² Despite our better understanding of the pathogenesis of gout, it continues to plague an ever increasing number of patients due to a combination of an aging population and an increase in the prevalence of conditions that predispose patients to hyperuricemia and gout.

Acute gout flares, although very painful, are self-limited. Because of this, medications with a significant risk of toxicity should be avoided. In sharp contrast to acute gout, chronic tophaceous gout can cause permanent skeletal damage and dramatically reduce the quality of life for those afflicted. The medications used to treat chronic gout can effectively reduce long-term sequelae, although they too have the potential for significant adverse effects. Thus, care must be taken to choose therapies that are both effective and well tolerated. Although gout is a common disease and one of the best understood of the rheumatologic disorders, many misconceptions exist in the diagnosis and management of gout.^{3,4} Misdiagnosis and delays in diagnosis and errors in management are commonly seen in general clinical practice. Five cases are presented to outline the management of gout and pseudogout.

CASE I

INITIAL PRESENTATION

The patient is 35-year-old man who presents with acute onset of podagra. His past medical history is notable for hepatitis C for which he is undergoing treatment with interferon and ribavirin. He was noted to be mildly anemic and, on the advice of family members, started eating beef liver several times per week. The patient describes excruciating pain and swelling in his right great toe of 1 days' duration. He has difficulty walking and cannot put on his shoe. On examination, the patient walks with a limp, has a temperature of 100.2°F, and is in obvious discomfort. Physical examination shows swelling, redness, and warmth in the right metatarsophalangeal joint (**Figure 1A**). The remainder of the musculoskeletal exam is unremarkable and there are no tophi. Serum chemistries demonstrate that uric acid is 6.5 mg/dL (normal, 2.7 to 7.8) and creatinine is 1.2 mg/dL (normal, 0.6 to 1.2). His liver function appears normal, including tests of albumin, transaminases, prothrombin time, and partial thromboplastin time.

- **What additional workup is indicated?**

WORKUP

The clinical presentation of gout is indistinguishable from that of septic arthritis. Both can cause all of the cardinal manifestations of inflammation, including pain, redness, swelling, and warmth. Although clinical features, such as location, dietary history, and male sex make gout more likely than infection, none of these effectively rules out infection. Because delay in the diagnosis of septic arthritis is associated with high morbidity and the treatments of septic arthritis and gout are disparate, timely and accurate diagnosis of a patient with an acute monoarthritis is essential.

Arthrocentesis is invaluable in determining the etiology of a warm, swollen joint. The synovial fluid should be sent for Gram stain and microbial culture, cell count with differential, and crystal analysis. The examination for crystals should be done with a polarizing