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RHEUMATOLOGY BOARD REVIEW MANUAL

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Dialysis-Related Disorders

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Cover Illustration by Christie Grams

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INTRODUCTION

Hemodialysis has become widely available since it was introduced for the treatment of renal failure 40 years ago, especially since Medicare funding was approved in 1972. The incidence rate of patients requiring chronic hemodialysis increased by 7% between 1990 and 1994 and by another 5% between 1994 and 1998 to 203 per 1 million persons.¹ At the same time, survival on dialysis has improved. Between 1990 and 1998, the death rate during the first year on hemodialysis decreased from 28 to 15 deaths per 100 patient-years. As a result of the increased incidence of end-stage renal disease (ESRD) and increased survival, the number of patients on hemodialysis in the United States almost doubled between 1990 and 1998 to 243,524; this figure is expected to increase to approximately 520,000 by 2010. In addition, the mean age of the ESRD population, which was 62.2 years in 1998, is also increasing. Because these patients are at risk for the rheumatologic complications of aging as well as rheumatologic diseases specific to the ESRD population, rheumatologists likely will be involved in their care at some point. This manual reviews rheumatologic complications specific to the ESRD population, with emphasis on dialysis-related amyloidosis and other complications that occur in patients maintained on dialysis.

DIALYSIS-RELATED AMYLOIDOSIS

INITIAL PRESENTATION AND HISTORY

A 60-year-old man with ESRD is urgently referred to a rheumatologist for evaluation of bilateral shoulder pain that is greater in the left shoulder. The pain is so severe while the patient is lying still that he refuses to have elective cardiac catheterization and dialysis access revision until his shoulder pain is better controlled.

The patient's shoulder pain has occurred intermittently for several years, is associated with weakness, and worsens when the patient raises his arms over his head and during dialysis. He often refuses to complete his dialysis treatments because of the pain. It is not relieved with nonsteroidal anti-inflammatory drugs (NSAIDs) or acetaminophen but has been controlled temporarily in the past with local injections of corticosteroids; monthly injections were required, however. The patient denies fevers, chills, rigors, recent trauma, and neck pain.

Past medical history is notable for ESRD secondary to membranoproliferative glomerulonephritis. The patient has been on hemodialysis since 1982 except for a brief period in 1988 after a cadaveric renal transplantation. Recurrent episodes of rejection made graft nephrectomy necessary that same year. He has a functioning arteriovenous fistula in his lower right arm. There is a history of