

Intractable Shoulder Pain in a Patient on Chronic Hemodialysis

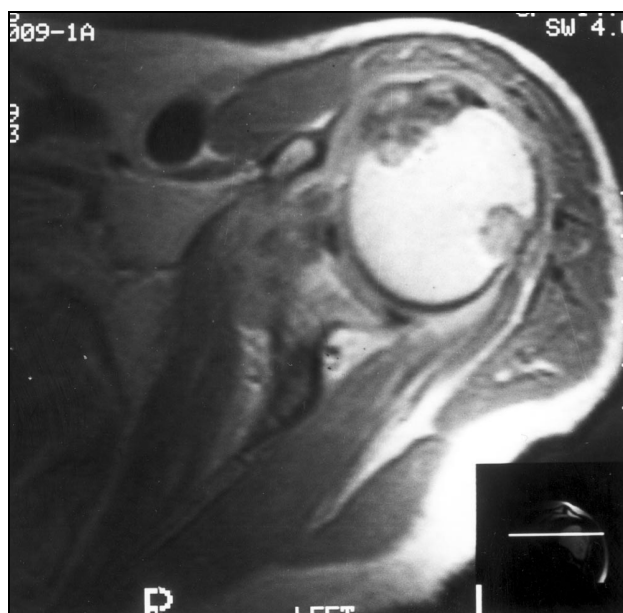
Sydney Benchetrit MD¹, Vidal Barchilon MD², Ze'ev Korzets MB BS¹, Joelle Bernheim MD³ and Jacques Bernheim MD¹

Departments of ¹Nephrology and Hypertension, ²Orthopedic Surgery and ³Pathology, Meir Hospital, Kfar Saba [Affiliated to Sackler Faculty of Medicine, Tel Aviv University], Israel

Key words: amyloidosis, hemodialysis, laparoscopy, shoulder, magnetic resonance imaging

IMAJ 2001;3:388

A 54 year old man had been on chronic hemodialysis for 15 years, during which he had undergone parathyroidectomy for secondary hyperparathyroidism. Over the last 3 years, severe bilateral shoulder pain, mostly unrelated to movement and exacerbated at night, developed. Radiographs and computerized tomography of the shoulders were unremarkable. Magnetic resonance imaging revealed bone defects and enlarged synovial sheath of the subscapularis and long head of biceps tendons. The defect portion was low in intensity on T2-weighted images [Figure]. Via a laparoscopic approach, synovial curettage with shaving of the subscapularis tendon was performed. Histological examination revealed massive amyloidosis (strongly positive β_2 -microglobulin staining material). Postoperatively, the patient's pain markedly subsided.



Magnetic resonance imaging of the left shoulder

Amyloidosis is a recognized complication in long-term hemodialysis patients [1]. It is now established that dialysis-associated amyloidosis is initiated by the polymerization of β_2 -microglobulin. The extent of β_2 -microglobulin amyloid deposition is directly related to both the duration of dialysis and the type of dialyzer membrane used. Clinically, dialysis-related amyloidosis is most commonly manifested by carpal tunnel syndrome, a destructive spondyloarthropathy and subchondral bone cysts. Of the joints involved, the shoulder is the most frequent, occurring in up to 50% of patients on long-term dialysis. The diagnosis may be confirmed histologically or,

occasionally, by joint fluid aspiration. Sonography has lately been advocated as a reliable non-invasive diagnostic technique [2]. MRI, as demonstrated here, has also proven to be a useful diagnostic tool.

Treatment of amyloid shoulder arthropathy is problematic. Early on, the pain may be alleviated by conservative measures such as oral non-steroidal anti-inflammatory drugs, intrarticular injections of steroids or hyaluronic acid, and physiotherapy. However, such response is usually short lived. Recently, open surgical curettage with or without bone grafting has been successfully employed, resulting in the amelioration of symptomatology for a long period [3]

References

1. Koch KM. Dialysis-related amyloidosis. *Kidney Int* 1992;41:1416.
2. Cardinal E, Buckwalter KA, Braunstein EA, Raymond-Tremblay D, Benson MD. Amyloidosis of the shoulder in patients on chronic hemodialysis: sonographic findings. *AJR* 1996;166:153-6.
3. Shiota E, Matsumoto Y, Nakamoto M. Open surgical treatment for dialysis-related arthropathy in the shoulder. *J Shoulder Elbow Surg* 2000;9:89-92.

Correspondence: Dr. S. Benchetrit, Dept of Nephrology and Hypertension, Meir Hospital, Kfar Saba 44281, Israel. Phone: (972-9) 747-2517, Fax: (972-9) 741-6918.