

中文題目：血液透析後發生之急性腔室症候群

英文題目：Acute Compartment Syndrome Following Hemodialysis

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服務單位：

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Case Presentation

A 61-year-old woman presented to the emergency department with unusual pain and progressive numbness along the left forearm that had developed following her dialysis session 3 hours before. Diabetic nephropathy contributed to her end-stage renal disease and hemodialysis was maintained via her forearm arteriovenous fistula for more than 2 years. She received Aspirin and Clopidogrel for her coronary ischemia and had no known history of coagulation disorders. Her dialysis regimens were free of anticoagulants. Smooth cannulation and adequate post-dialysis hemostasis were exhibited under area puncture technique.

At the emergent department, the area of cannulation was swollen, ecchymotic and bullous, and the left hand was cyanotic and cold. Physical examinations showed tense forearm muscle and paresthesias of the hand. She received computed tomographic angiography, which did not show abnormality of the above-fistula vasculature. Emergent fasciotomy and fistula ligation were performed for the acute compartment syndrome resulting from the needle hole-originated subcutaneous hematoma, which extended to the subfascial layer. Cyanosis and paresthesias of her hand recovered immediately after the fasciotomy. She discharged without sequelae 10 days after admission. An alternative artificial graft was reconstructed 3 months later.

Discussion

Compartment syndrome occurs when elevated pressure within a muscle group compromises the circulation and function of the distal tissues. Given to the bleeding diathesis resulting from uremia, polypharmacy affecting coagulation and frequent vascular procedures in the patients undergoing hemodialysis, vascular access surgeries, dialysis cannulations, and traumas have been reported causing acute compartment syndrome in this population. It is a clinical diagnosis based on patients' history and physical examinations rather than their compartment pressure measurements. Prompt identification and timely fasciotomy are essential for the prevention of neuromuscular deficit and extremity loss of patients. Simultaneously, this devastating complication could be possibly avoided by thorough preoperative evaluation, comprehensive medical adjustment, and cautious vascular access care.