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A Case of Nephrotic Syndrome in Patient with Chronic Venous Edema

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Introduction

There are many causes of chronic leg edema. One of the most common cause is chronic venous disease, and heart failure, liver disease and renal disease should also be differentiated since these diseases require immediate treatment. However, it is often difficult to distinguish these medical emergencies from aggravation of venous insufficiency in patients with preexisted chronic leg edema. Here, we report a case of 62-year-old male diagnosed with nephrotic syndrome who presented aggravation of chronic leg edema.

Case Report

A 62-year-old male was admitted to Department of Rehabilitation Medicine presenting with generalized edema especially in both lower extremities which aggravated past 2 months. He had a history of recurrent cellulitis and chronic edema of both lower legs that developed 2 years ago. He described that his leg edema was more severe in right side, and symptom was wax and wane. Outside lymphoscintigraphy (Figure 1.) taken 2 years ago showed mild dermal backflow in right lower leg. Further, outside magnetic resonance image of right lower leg (Figure 2.) revealed diffuse subcutaneous edema with fascial thickening and honeycomb pattern. He was diagnosed with lymphovenous edema of bilateral lower legs and received compression therapy.

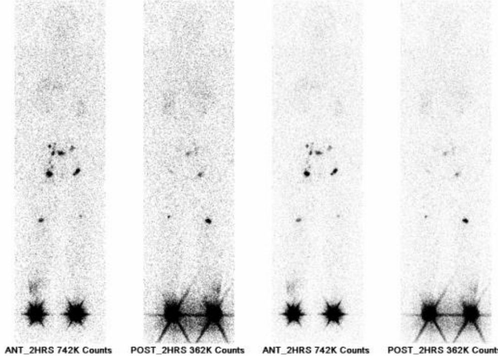

Figure 1. Lymphoscintigraphy showed subtle dermal backflow in right lower leg.

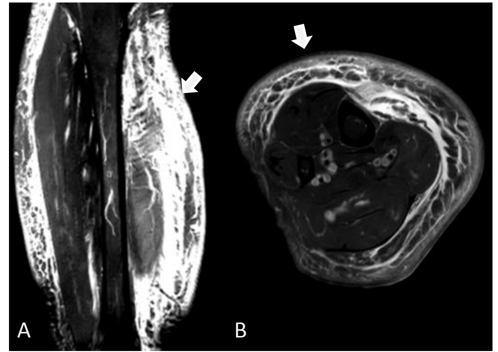

Figure 2. In right lower leg, Saggital fat-suppressed T2-weighted MRI (A) Axial fat-suppressed T2-weighted MRI (B) showed subcutaneous edema with honeycomb pattern(arrows).

During the 2 months before visiting our clinic, he recognized aggravation of bilateral leg edema ascending to thigh, and reported 20 kg of weight gain. At the initial work up, severe tense and puffy pitting edema was observed in bilateral lower extremities, and redness, heating sense and lymphorrhea were also noted in right lower leg (Figure 3). His leg circumferences were 72/62 cm and 62/58 cm at mid-thigh and maximal calf level, respectively. Laboratory findings revealed low albumin (2.0 g/dl), increased cystatin C (1.1 mg/L), and proteinuria (9102 mg/dl). Moreover follow up magnetic resonance image of right lower leg (Figure 4.) showed consistent diffuse subcutaneous edema and infiltrations in right lower leg. He was diagnosed as nephrotic syndrome complicated with cellulitis of right lower leg. Renal biopsy was performed after he was transferred to the Department of Nephrology, and pathology confirmed diagnosis of membranous nephropathy. He received diuretics and angiotensin receptor blocker therapy in combination with albumin replacement, and antibiotics treatment. Twelve kg of weight reduction was noted while undergoing treatment, and his leg edema was substantially improved. Finally, he discharged, and currently maintained medical treatment.

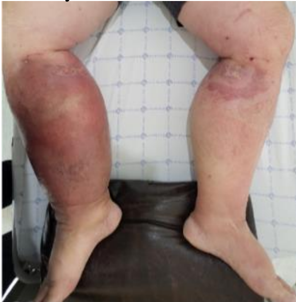

Figure 3. Photo of both lower extremities showed redness and severe edema in right leg.

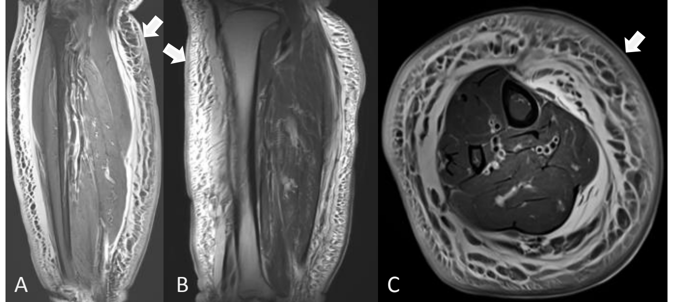

Figure 4. In right lower leg MRI on day of admission, fat-suppressed T2-weighted MRI Coronal view (A) Sagittal view (B) Axial view (C) showed subcutaneous edema with honeycomb pattern (arrows).

Conclusion

This report demonstrates a case of nephrotic syndrome diagnosed in patient with chronic venous edema. Aggravation of chronic venous edema and nephrotic syndrome should be differentiated, because serious outcome is anticipated if the latter condition is not treated immediately. Therefore, when evaluating patients with aggravation of leg edema accompanied by weight gain, blood and urine laboratory test should be included to rule out medical causes.