

## A case of femoral arterial thrombosis in adult nephrotic syndrome due to minimal change disease

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Venous thrombotic complications in nephrotic syndrome are relatively common and widely-recognized. A variety of hemostatic derangements and resultant hypercoagulability contribute to this state. However, only a few cases have been reported describing the occurrence of arterial thrombosis and seen primarily in children. We report a case of a 39-year-old woman, who presented with edema accompanied by nephrotic range of proteinuria, hypoalbuminemia, and hyperlipidemia. She also had claudication of the right lower extremity. A renal biopsy was performed and minimal change disease was diagnosed. On angiographic evaluation of claudication, total occlusion of right superficial femoral artery was documented. For treatment of this condition, balloon dilatation and thrombolysis were firstly tried but failed. On the next step, thrombectomy was performed with the balloon catheter and thrombus was successfully aspirated. Thereafter, during the medical treatment of nephrotic syndrome and oral anticoagulation, her edema and claudication were resolved. This case suggests that femoral arterial thrombotic complication can spontaneously occur in adult nephrotic syndrome patients even without iatrogenic injury from blood sampling and should be considered as a differential diagnosis of arterial atherosclerotic occlusive disease.

## Effect of omega-3 fatty acid on oleic acid of erythrocyte membrane in patients with overt diabetic nephropathy

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**INTRODUCTION:** Dietary omega-3 fatty acid (FA) has cardioprotective effect and is associated with a slower deterioration of albumin excretion. There is no report about the effect of omega-3 FA on proteinuria in patients with diabetic nephropathy who are well controlled blood pressure with angiotensin converting enzyme inhibitors (ACEI) or angiotensin II receptor blockers (ARB). We hypothesized that omega-3 FA supplementation decrease proteinuria and change erythrocyte membrane FA contents which is related with acute coronary syndrome in patients with diabetic nephropathy. **METHODS:** In a double-blind randomized placebo-controlled design, a total of 19 patients treated with ACEI or ARB, was randomized to treatment for 12 weeks with omega-3 FA or a control treatment. We measured proteinuria with random spot urine and urine collected for 24 hours. Urinary liver-type fatty acid binding protein (L-FABP), prostaglandin E2 (PGE2) and neutrophil gelatinase-associated lipocalin (NGAL) were measured by enzyme-linked immunoassay. Erythrocyte membrane fatty acid contents were measured by gas chromatography. **RESULTS:** The mean age of the enrolled patients was 60.4±10.7 years and mean blood pressure was 121/72 mmHg. Baseline urinary protein to creatinine ratio, 24 hours urine protein and serum creatinine were 0.74±0.65 g/g, 0.53±0.53 g and 1.23±0.20 mg/dL. Blood pressure, proteinuria, albuminuria (443.2±614.6 mg/g vs. 348.0±390.6 mg/g), serum creatinine, L-FABP, PGE2, NGAL (35.1±57.2 ng/mL vs. 25.4±17.8 ng/mL) and lipid profile were not significantly changed in omega-3 FA supplemented group after 12 weeks compared to baseline. The erythrocyte membrane contents of eicosapentaenoic acid (EPA) ( $p=0.025$ ) were significantly increased and arachidonic acid to EPA ratio ( $p=0.012$ ) and oleic acid (15.8±2.9 % vs. 13.1±2.2 %,  $p=0.036$ ) were significantly decreased in omega-3 FA supplemented group after 12 weeks compared to baseline. **CONCLUSIONS:** Although there is no additive effect of omega-3 FA on proteinuria, FA contents of erythrocyte membrane were significantly changed by omega-3 FA treatment for 12 weeks in patients with diabetic nephropathy who are well controlled blood pressure with ACEI or ARB.