Case Report

Working out with Minimal Change

Derek Worley B\textsuperscript{1}\*, Manavjeet Sidhu\textsuperscript{2}, Sundeep Agrawal\textsuperscript{1}, Niket Sonpal\textsuperscript{1} and Robert Graham\textsuperscript{1}

\textsuperscript{1}Department of Medicine, NSLIJ Lenox Hill Hospital, USA
\textsuperscript{2}Department of Medicine, New York University School of Medicine, USA

Abstract

Minimal change disease is a major cause of nephrotic syndrome in children and adults. Most cases of MCD are idiopathic; however drugs, neoplasms, or infections can cause it. Here we present a patient with suspected tribulus terrestris induced MCD. Tribulus is a derivative of a weed found in warm climates, hypothesized to increase natural testosterone levels.

A thirty-three year old previously healthy male presents with 3 days of bilateral lower extremity edema. The patient also endorsed oliguria and urgency during the previous week. Associated symptoms included lethargy, decreased appetite, and weight gain. He denied any family history of renal disease. The patient stated that he lifts weights most days of the week. His diet consists of low sodium, high protein intake, complex carbohydrates, and no vegetables. On admission his vitals were stable and his exam was significant for generalized anasarca with +1 pitting edema of the lower extremities to the tibial plateau. The serum creatinine was 1.89 mg/dL and a urinalysis showed >300mg/dL of protein and moderate urine blood. Based on the findings the patient was diagnosed with a nephrotic syndrome. For further investigation the patient received a percutaneous renal biopsy, which revealed diffuse foot process effacement, supporting a diagnosis of minimal change disease.

DISCUSSION

Tribulus terrestris is taken by many because of the desire to enhance athletic performance. There is limited data as to whether or not this supplement increases the body’s own ability to

ABBREVIATIONS

MCD: Minimal Change Disease.

INTRODUCTION

Minimal change disease (MCD) is a major cause of nephrotic syndrome in children and adults. Lesions of the podocyte or glomerular epithelial cell define this disease. Most cases of MCD are idiopathic. However it can be associated with drugs, neoplasms, infections, and other glomerular diseases [1]. Here we present a patient with suspected tribulus terrestris induced minimal change disease. Tribulus is a derivative of a weed found in warm climates, hypothesized to increase natural testosterone levels [2].

CASE PRESENTATION

A thirty-three year old previously healthy male presents with 3 days of bilateral lower extremity edema. The patient also endorsed oliguria and urgency during the previous week. Associated symptoms included lethargy, decreased appetite, and weight gain. He denied any family history of renal disease. The patient stated that he lifts weights most days of the week. His diet consists of low sodium, high protein intake, complex carbohydrates, and no vegetables. The patient also endorsed starting a dietary supplement called Tribulus approximately one month prior. He denied any other medication or supplement use. On admission his vitals were stable and his exam was significant for generalized anasarca with +1 pitting edema of the lower extremities to the tibial plateau. The serum creatinine was 1.89 mg/dL and a urinalysis showed >300mg/dL of protein and moderate urine blood. Based on the findings the patient was diagnosed with a nephrotic syndrome. For further investigation the patient received a percutaneous renal biopsy, which revealed diffuse foot process effacement, supporting a diagnosis of minimal change disease.

There are case reports suggesting that tribulus can be nephrotoxic in humans as well, however the he exact mechanism of the nephrotoxicity of Tribulus remains unknown. We recommend that clinicians screen their patients for use of dietary supplements as some clearly can have harmful side effects.
produce testosterone. However animal research has proved this substance to be nephrotoxic. There are case reports suggesting that tribulus can be nephrotoxic in humans as well, however the exact mechanism of the nephrotoxicity of Tribulus remains unknown [3]. We recommend that clinicians screen their patients for use of dietary supplements as some clearly can have harmful side effects.

REFERENCES