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A Young Male With Cholestatic Jaundice Induced by Dymethazine Present in Nutritional Supplement “Xtreme DMZ”

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Dietary supplements are widely popular, especially those used as workout supplements. Though many people can tolerate them without significant side effects, they have been shown to cause serious liver injury and even failure.

This case highlights the risk of these supplements in a young male who developed jaundice after the use of “Xtreme DMZ”.

Case Presentation

A 31-year-old male without significant past medical history presented initially to the emergency department with nausea and vomiting. He was found to be jaundiced with a total bilirubin level of 6.3 mg/dl and elevated liver enzymes with AST 94 U/L, ALT 217 U/L with normal ALP 85 U/L. His condition was stable, and he was discharged with a recommendation to follow up as an outpatient with gastroenterology. However, 3 weeks later, the patient presented to the emergency department again due to weight loss and severe pruritus. Labs were notable for worsening bilirubin level of 25 mg/dl with ALP of 274 U/L, AST 81 U/L and ALT 67 U/L. He denied fever, abdominal pain, nausea, vomiting, or diarrhea. He reported social alcohol use with his last drink over a month ago. He did admit to starting a new workout supplement “Xtreme DMZ” about 3 months prior. He had a negative serologic workup for liver disease including viral hepatitis and autoimmune hepatitis. Radiological imaging of the abdomen including ultrasound and CT scan were unrevealing. The patient was diagnosed with a drug-induced liver injury secondary to dymethazine, an anabolic prohormone present in “Xtreme DMZ”. As for treatment for severe pruritus, he required atarax, questran, and rifampin which eventually improved his symptoms.

Discussion

17-beta-hydroxy 2-alpha, 17-beta-dimethyl 5-alpha-androstan 3-one also known as dymethazine is an anabolic prohormone that is rising in popularity amongst bodybuilders. It has been shown to promote muscular hypertrophy and is advertised as safe with few side effects. Similarly, to many other anabolic supplements, it is not controlled by FDA. This case highlights how anabolic prohormones such as dymethazine, as seen in “Xtreme DMZ”, can cause cholestatic liver injury. Other case reports have shown similar clinical symptoms and pattern of liver injury. The purpose of this report is to familiarize physicians with the dangerous side effects of nutritional supplements containing anabolic prohormones.

Labs	1st ED visit	2nd ED visit	1st admission day	2nd admission day	3rd admission day
Na	137	134	137	138	136
K	3.9	4.0	3.9	4.0	3.9
Crea	0.91	1.10	1.10	0.97	1.07
TP	7.9	7.2	6.7	6.9	7.1
Albumin	3.6	3.0	3.0	2.6	2.6
Total Bil.	6.8	25.3	25.0	22.3	23.1
Direct Bil.		22.2	21.0	19.4	
AST	94	81	79	74	75
ALT	217	67	68	62	63
ALP	85	274	261	245	264
INR	1.0	1.0			
HgB	16.4	13.9			
WBC	6.3	6.7			
PLT	287	355			