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Case Reports

Rhabdomyolysis of the Deltoid Muscle in a Bodybuilder Using Anabolic-Androgenic Steroids: A Case Report

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Abstract

Objective: Rhabdomyolysis (breakdown of skeletal muscle tissue) may be caused by mechanical, physical, chemical, or biological factors. We present the unique case of a bodybuilder who developed localized rhabdomyolysis of the deltoid muscle after injection of steroids into the shoulder region.

Background: A 39-year-old amateur bodybuilder presented to the emergency department with excruciating pain and inability to move his right shoulder after injecting stanozolol, an anabolic-androgenic steroid (AAS), into his right deltoid muscle on the same day. On physical examination, the right deltoid muscle was swollen and tense and the surrounding skin red, tender, and warm. He had no fluctuation or systemic fever and no sensory or motor deficit. His distal pulsations were distinct. Laboratory test results suggested massive rhabdomyolysis. The major magnetic resonance imaging finding was diffuse hyperintensity signals on T2-weighted images of the deltoid muscle, which was consistent with edema.

Differential Diagnosis: Polymyositis and dermatomyositis, mild injury, infectious myositis without phlegmon or abscess formation, radiation therapy, subacute denervation, compartment syndrome, early myositis ossificans, rhabdomyolysis, and sickle cell crisis.

Treatment: The patient was treated with intravenous fluid replacement and sodium bicarbonate to alkalinize the urine. Four days after admission, his pain had decreased, he had regained range of motion, and his renal function remained unaffected.

Uniqueness: Anabolic-androgenic steroid use is associated with various side effects that are generally systemic and dose related. We could not find reports of localized side effects of AAS use, as this case presented, elsewhere in the English-language literature.

Conclusions: "Doping" among amateur athletes occurs frequently. It can cause acute and chronic health problems, most of which are systemic. This is the first description of localized rhabdomyolysis in the area of an AAS injection.

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