Reposition of a dislocated shoulder under use of cannabis

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Letters to the Editor

Reposition of a Dislocated Shoulder Under Use of Cannabis

To the Editor:

We would like to report a case of a first-time dislocated shoulder in a rock climber. Initial attempts to reduce the joint were unsuccessful because of considerable muscle tone. Inhalational intake of cannabis led to adequate muscle relaxation and easy reposition on the first try. Cannabis ingredients may be effective in certain circumstances as an emergency muscle relaxant.

A 22-year-old experienced rock climber (level F7a) was bouldering (climbing without rope protection at low height) in a remote area. He intended to perform a difficult climbing move (gaston move) where the shoulder joint is in maximal abduction and external rotation. The climber was not able to stabilize his right shoulder joint adequately during the attempt, resulting in a first-time anterior-inferior dislocation of his shoulder. He fell approximately 1.5 m off the rock, but did not strike or land on his injured arm. The mechanism of injury and the fall were witnessed by one of the authors (A.S.). This, combined with the typical slightly abducted, fixated position of the shoulder made a fracture or fracture-dislocation very unlikely, and it was decided to attempt a shoulder reduction on site. The athletic patient, however, had very high muscular tone, and after 20 minutes of axial traction and several attempts, it still could not be relocated. Another climber who was present at the crag mentioned that he was carrying cannabis with him. With the intention to induce muscular relaxation, the patient agreed, after informed consent, to inhalational administration of cannabis. He took several deep inhalations or “drags,” and after approximately 5 minutes, the pain and muscular tone decreased considerably, and the shoulder was relocated easily on the first try with axial traction.

Several studies have shown the beneficial effects of cannabis ingredients in the treatment of multiple sclerosis, Crohn’s disease, the side effects of chemotherapy, and spasticity after spinal cord injury. Two ingredients are largely responsible for the physiologic effects of cannabis. Delta-9-tetrahydrocannabinol is the main substance responsible for the psychoactive reaction. It imitates the action of anandamide, a naturally occurring neurotransmitter, at the CB1 cannabinoid receptors in the brain. The second ingredient, cannabinol, an oxidation product of delta-9-tetrahydrocannabinol, is known to act as a muscle relaxant, anticonvulsant, and psychoactive ingredient. Its anxiolytic and antipsychotic actions are controversial. After inhalation, physiologic effects become apparent within 1 to 2 minutes, reach a peak at 10 to 30 minutes, and last for 2 to 3 hours. The muscle relaxant effects have been objectively demonstrated through electromyography. Known acute side effects of cannabis are anxiety and panic attacks, and chronic use may lead to psychological impairment and decreased cognitive performance.

In our described case the muscle relaxant effect of cannabis was quite remarkable, as repositioning the dislocated shoulder was accomplished with ease after cannabis administration.

It should be noted, however, that cannabis maintains an illicit status in several countries. This, along with its presence on the Swiss doping list and its addictive potential, makes its use as an emergency drug controversial.

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References


Authors Queries

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