

The Effect of Jujube Extract and Resistance Training on the Reduction of Complications Caused by the Induction of Anabolic Steroid Boldenone on the Histopathological Changes of Pancreatic Tissue of Male Wistar Rats

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Abstract : Introduction: Athletes frequently perform anabolic steroid resistance exercise, but the effects of medical doses and abuse along with resistance exercise on structural damage to the Pancreases and also jujube extract are unknown. The aim of this study was to investigate the effects of resistance training on body weight and hip fractures induced by boldenone injection in male rats. Materials and methods: In this experimental study, 30 male Wistar rats aged 8-12 weeks (weight 202 ± 9.34 g) were randomly divided into five groups: control, boldenone, extract of iujuba+boldenone, boldenone+resistance training and boldenone+resistance training +extract of jujuba. The resistance training program included climbing the ladder for 8 weeks, 3 days a week, 1 session training in a day and each session consisted of the 3 sets and 5 repetitions. Injection was conducted in depth in the hamstring once a week on an appointed day. After anesthesia, autopsy was performed, and the cardiac tissue was isolated. Results: Results showed that boldenone caused tissue damage, congestion, and nuclei unclear and diffuse. In the group "resistance + Boldenone," The Pancreases tissue showed a high degree of hyperemia, and the muscle cells were somewhat abnormal. In boldenone + jujube, the appearance of the tissue was normal, and the rejuvenating effect was visible. Conclusion: Boldenone appears to cause structural damage to the Pancreases tissue. Strength training with Jujube Extract can reduce part of the pancreatic system disorders (necrosis and inflammation) caused by anabolic steroid use.

Keywords : boldenone, Jujube extract, pancreases tissue, resistance training

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