Adverse Cardiovascular Function Secondary to Inappropriate Exogenous Androgenic Anabolic Steroid Usage in Young Adult Males

Nicholle Rothengass
University of North Dakota
Adverse Cardiovascular Function Secondary to Inappropriate Exogenous Androgenic Anabolic Steroid Usage in Young Adult Males
Nichole Rothengass, PA-S

Abstract

In young adult male athletes what effects does the long-term use of anabolic-androgenic steroids (AAS) have upon the cardiovascular system?

Research Question

What are the long-term effects of anabolic-androgenic steroids on cardiac function?

Literature Review

Inappropriate abuse of anabolic-androgenic steroids in the United States is a growing problem and concern, what are the multiple comorbidities that can develop from the chronic abuse?

Discussion

AOS – 16.6

Table 1: Structural and Functional Data for the LV and Lipid Profiles in Anabolic Androgenic Steroid Users (Sader, 2001)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AAS Users (n=35)</th>
<th>Non-User (n=57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV mass (g/m²)</td>
<td>51.7 ± 19.5</td>
<td>48.6 ± 17.9</td>
</tr>
<tr>
<td>LV ejection fraction</td>
<td>60.2 ± 7.9</td>
<td>61.7 ± 6.5</td>
</tr>
<tr>
<td>LV diastolic function</td>
<td>9.7 ± 1.5</td>
<td>9.3 ± 1.5</td>
</tr>
<tr>
<td>LV systolic function</td>
<td>14.8 ± 1.5</td>
<td>14.4 ± 1.5</td>
</tr>
</tbody>
</table>

Applicability to Clinical Practice

Pathological AAS induced left ventricular hypertrophy, impaired diastolic filling and arrhythmia may lead to an increased risk of myocardial infarction and sudden death. The risk of mortality among chronic individuals who inappropriately used AAS is reported to be 4.6 times higher than non-AAS participants who have utilized AAS inappropriately (Evans, 2004).

Physical examination can confirm a suspicion, by observing the patient closely during examination. In a well-muscled athlete, keep an eye open for acne, gynecomastia and cutaneous striae in the distal-pectoral area specifically in males with small testes, low sperm counts, high hemotocrit and hemoglobin values.

References


