

Dietary Supplements Found to Contain Agents that Cause Positive Antidoping Testing

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Research of Stimulants and Anabolic Steroids in Dietary Supplements

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ABSTRACT

The purpose of this study was to analyze the composition of 103 dietary supplements bought on the internet. The supplements were dispatched in four different categories according to their announced contents [creatine, prohormones, "mental enhancers" and branched chain amino acids (BCAA)].

All the supplements were screened for the presence of stimulants and main anabolic steroids parent compounds. At the same time, the research was focused on the precursors and metabolites of testosterone and nandrolone.

The study pointed out three products containing an anabolic steroid, metandienone, in a very high amount. The ingestion of such products induced a high quantity of metandienone metabolites in urines that would be considered as a positive antidoping test.

The results have also shown that one creatine product and three "mental enhancers" contained traces of hormones or prohormones not claimed on the labels and 14 prohormone products contained substances other than those indicated by the manufacturer.

The oral intake of the creatine product revealed the presence of the two main nandrolone metabolites (19-norandrosterone and 19-noretiocholanolone) in urine.

CONCLUSIONS

This study confirms that supplements contain drugs that will cause the athletes to test positive for substances that are currently on the banned list.

The situation in dietary supplements is that there are still approximately one in five supplements on sale that are contaminated – whether accidental or deliberate – with products that are not declared on the label.

To date, excretion studies have produced conflicting results with some but not all the subjects who ingested supplements containing prohormones. This shows that the controls made on the purity of dietary supplements are not sufficient.

Authorities and sports federations should be aware of this problem and should dictate new regulations for production, sale and use of supplements.

These results are also essential to inform athletes and ordinary people of the possible contamination of dietary supplements and to prevent the misuse of such products.

Even if the sale of the prohormones has been recently prohibited in the US, these products are still easily available on the internet. This indicates that problems related to the prohormones exist nowadays.

Moreover, an important aspect for the consumers is to ask themselves about the use of the dietary supplements as "ergogenic aids".