

KOMMENTAR

The Responsibility of Sports Medicine in Competitive Sports

Comment on the editorial „Doping in Competitive Sports in West Germany“ (Statement of German university lecturers and the Science Board of the DGSP (German Society for Sports Medicine and Prevention), *Deut Z Sportmed* 62 (2011) 343.

The discussion on a consensual statement of university lecturers of German sports medicine on the issue of doping demonstrated that sports medicine is fully aware of its responsibility in this respect (11). However, the question must be allowed: Why only now, why has not anybody taken a critical look at various studies yet? The studies on anabolic steroids which are now condemned have been available to the scientific community for a long time and are known to the majority.

Another question remains open. Why this sudden rush although there was a great need for discussion? The statement of university lecturers refers, among others, to the study “Doping in Deutschland von 1950 bis heute aus historisch-soziologischer Sicht im Kontext ethischer Legitimation“ (“Doping in Germany from 1950 to today from a historical-sociological point of view in the context of ethical legitimation”) commissioned by DOSB (German Olympic Sports Federation) and BISp (Federal Institute for Sport Science). The results for the period of the 1970s and 1980s were presented in Berlin on 27/09/2011 and at a press conference which took place one day before. The magazine „Der Spiegel“ had already reported beforehand. An analysis by the project advisory board had not been carried out at this time. In my opinion, a thorough review and subsequent statement after the presentation of the written version would have proved to be more useful than premature reactions to reports and comments.

With respect to all critical statements, the scientific state of data (not the published opinion) at the relevant time must not be disregarded. I already made this clear elsewhere prior to the discussion on the statements of university lecturers and will repeat some of these remarks in the following.

The 1970s were characterized by a scientific discussion on effects and side effects of anabolic steroids in healthy athletes. The effects were called into question by some scientists. At a symposium of the Max Planck Society in 1977, prominent endocrinologists and basic researchers denied a performance-enhancing effect and referred to it as a pseudo-problem. They suggested broad-based studies in which athletes with and without anabolic agents are medically observed over a longer period of time. As early as in the 1960s, side effects of anabolic agents were well known. These studies, however, were animal experiments or comprised findings examined in patients. From the mid-1960s, a series of studies on effects and side effects of anabolic agents in healthy subjects, mostly athletes, were published in renowned international journals such as *Journal of Applied Physiology* 1965 (3), *Science* 1969 (7), *British Medical Journal* 1975 (4), *The Lancet* 1976 (5), *Clinical Science* 1981 (6). The volunteers were not always clearly characterized (weight lifters, well-trained athletes, „athletic men“). In most of the studies, methandienone was used, the daily dosage was 10 to 25 mg and even 100 mg in two studies. The findings as regards an increase in muscle strength varied. The described side effects (complaints, blood pressure, liver enzymes) ranged from no side effects to their disappearance after stopping the intake of anabolic agents.

What is remarkable is a quotation from a publication of 1988 (10): „Some investigators have suggested that the hazards of anabolic steroids may be overstated in the diseased population and are minimal or absent in healthy subjects. Yet, many questions are unanswered. Current data do not link life-threatening side effects with intermittent use of anabolic steroids. However, many concerns remain“. I do not share this view, because I think that, at this time, the health risks were sufficiently known. Most of the studies also give the impression that side effects were marginally described and discussed. On the other hand, this publication points out that even in 1988, there was no scientific consensus.

In the 1980s, there was another problem. The thesis about an allegedly necessary substitution with testosterone especially in endurance sports was propagated. It was speculated that it allowed shorter times of regeneration and higher training loads. This resulted in the conduction of a multicenter study authorized by the Federal Institute for Sport Science and designed to scientifically review these allegations. I took part in this project with my institute, since I was convinced to be able to contribute to refuting previous allegations and, in so doing, to at least restrict the increasing use of testosterone in endurance sports. The Saarbrücken studies of the multicenter project did not include any elite athletes. Several testosterone studies exist in the international literature of the last 20 years, published for example in *The New England Journal of Medicine* 1996 (2) or *JAMA* 1999 (9). It is particularly a study from the laboratory for doping analyses Lausanne which has to be mentioned, published in 2006 (1). In this study, also the influence of testosterone on endurance and regeneration was examined. No effect could be proven.

The present discussions showed that studies with doping substances are considered as questionable and, a priori, even negative especially if carried out by sports physicians active in competitive sports. As a result, compulsory directives should be determined in order to prevent the suspicion of conflicts of interest in the first place. Therefore, I expressly welcome the establishment of a „Conflict of Interest Policy“. Sports medical know how, however, will be indispensable. The same applies to the membership of sports physicians experienced in competitive sports in committees of sports associations and anti-doping organizations. Those who know meetings of such committees will have noticed that specific knowledge of experience in competitive sports is necessary if appropriate decisions are to be brought about.

What is superfluous in the statement of university lecturers, because it is misleading, is the remark „that doping methods at the time of political block confrontation were partly demanded and even financially supported by politics“. Even if this was perceived like this, it remains the medical responsibility which cannot be taken on by no one else.

In an editorial in this journal in 1987, I already mentioned the Bermuda Triangle of high-performance sport: commercialization – competition inflation – doping (8). The activity in the area of competitive sports is a sensitive field and represents special requirements for the sports physician. I had written at that time that the danger for a medicine man of wearing out in this triangle is not negligible. It is therefore important not to let oneself get taken in by whomever. Comments on influences outside medicine do not serve any purpose in this connection even if a justification

within this context is denied in a subsequent sentence. Sports physicians should not refer to a prevention strategy for disadvantages, as discussed by historians of the above-mentioned current research project.

The statement of university lecturers underlines that qualified medical care in competitive sports is part of the functions of university sports medicine. I fully agree with this opinion. There is no doubt that, in this context, health receives highest priority. On top of that, athletes can expect to be provided sports medical care in such a way that they achieve the level of performance they can obtain as a result of their talent and their training. This includes, for example, performance diagnostics and monitoring of training. The medical care of elite athletes is part of the essential competences of sports medicine. However, it is recommended to maintain – especially material – independence and not allow oneself to be exploited. Full-time activities in competitive sports are therefore to be declined. Sports medicine is much more than only high-performance sport!

Literature

1. BAUME N, SCHUMACHER YO, SOTTAS PE, BAGUTTI C, CAUDERAY M, MANGIN P, SAUGY M: Effect of multiple oral doses of androgenic anabolic steroids on endurance performance and serum indices of physical stress in healthy male subjects. *Eur J Appl Physiol* 98 (2006) 329-340.
2. BHASIN S, STORER TW, BERMAN N, CALLEGARI C, CLEVINGER B, PHILLIPS J, BUNNEL TJ, TRICKER R, SHIRAZI A, CASABURI R: The effects of supraphysiologic doses of testosterone on muscle size and strength in normal men. *N Engl J Med* 335 (1996) 1-7.
3. FOWLER WM, GARDNER GW, EGSTROM GH: Effect of an anabolic steroid on physical performance of young men. *J Appl Physiol* 20 (1965) 1038-1040.
4. FREED DL, BANKS AJ, LONGSON D, BURLEY DM: Anabolic steroids in athletics: crossover double-blind trial on weightlifters. *Br Med J* 2 (1975) 471-473.
5. HERVEY GR, HUTCHINSON I, KNIBBS AV, BURKINSHAW L, JONES PRM, NORGAN NG, LEVELL MJ: „Anabolic“ effects of methandienone in men undergoing athletic training. *Lancet* 2 (1976) 699-702.
6. HERVEY GR, KNIBBS AV, BURKINSHAW L, MORGAN DB, JONES PR, CHETTLE DR, VARTSKY D: Effects of methandienone on the performance and body composition of men undergoing athletic training. *Clin Sci* 60 (1981) 457-461.
7. JOHNSON LC, O'SHEA JP: Anabolic steroid: effects on strength development. *Science* 164 (1969) 957-959.
8. KINDERMANN W: Editorial. *Dtsch Z Sportmed* 38 (Sonderheft 1987) 3.
9. KING DS, SHARP RL, VUKOVICH MD, BROWN GA, REIFENRATH TA, UHL NL, PARSONS KA: Effect of oral androstenedione on serum testosterone and adaptations to resistance training in young men: a randomized controlled trial. *JAMA* 281 (1999) 2020-2028.
10. WINDSOR RE, DUMITRU D: Anabolic steroid use by athletes. How serious are the health hazards? *Postgrad Med* 84 (1988) 37-38, 41-43, 47-49.
11. WISSENSCHAFTSRAT DER DGSP: Doping im Leistungssport in Westdeutschland. Stellungnahme der Hochschullehrer der deutschen Sportmedizin. *Dtsch Z Sportmed* 62 (2011) 343-344.

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