SUPPLEMENT

Medicolegal aspects of doping in football

T Graf-Baumann

Br J Sports Med 2006;**40**(Suppl I):i55–i57. doi: 10.1136/bjsm.2006.027979

Correspondence to: Professor T Graf-Baumann, Chairman FIFA Doping Control Sub-Committee, Administration and Scientific Director, German Society for the Study of Pain, Administration and Scientific Director, German Society for Musculo-Sceletal Medicine, Schillerst. 14, 79331 Teningen, Germany; graf-baumann@t-online.de

This article describes the historical background of the medicolegal aspects of doping in sports and especially in football. The definitions of legal terms are explained and the procedure of individual case management as part of FIFA's approach to doping is presented. Finally, three medicolegal problems awaiting urgent solution are outlined: firstly, the difficulties in decision making arising from the decrease of the T/E ratio from 6 to 4; secondly, the therapeutic application of α-reductase inhibitors for male pattern baldness in the face of the classification of finasteride as a forbidden masking agent; and lastly, the increasing use of recreational drugs and its social and legal implications in positive cases.

Ancient Greek athletes are known to have used special diets and stimulating potions to fortify themselves. Strychnine, caffeine, cocaine, and alcohol were often used by cyclists and other endurance athletes in the nineteenth century. Thomas Hicks ran to victory in the Olympic marathon of 1904 in Saint Louis with the help of raw eggs, injections of strychnine, and doses of brandy administered to him during the race. By the 1920s it had become evident that restrictions regarding drug use in sports were necessary.

In 1928 the International Amateur Athletic Federation became the first international sport federation to ban the use of doping (use of stimulating substances). Many other international federations followed suit, but restrictions remained ineffective as no tests were performed. The death of Danish cyclist Knud Enemark Jensen during competition at the Olympic Games in Rome 1960—the autopsy revealed traces of amfetamine—increased the pressure for sports authorities to introduce drug tests. In 1966 the International Cycling Union and the Fédération Internationale de Football Association (FIFA) were among the first international sports federations to introduce doping tests in their respective world championships. In the following year the International Olympic Committee (IOC) instituted its Medical Commission and set up its first list of prohibited substances.

Drug tests were first introduced at the Olympic Winter Games in Grenoble and at the Olympic Summer Games in Mexico in 1968 after the urgency of anti-doping work had been highlighted by another tragic death, that of cyclist Tom Simpson during the 1967 Tour de France. A reliable test method to detect anabolic steroids was finally introduced in 1974 and the IOC added anabolic steroids to its list of prohibited substances in 1976. This resulted in a marked increase in the number of drug disqualifications in the late 1970s, notably in strength related sports such as throwing events and weightlifting. Blood boosting or blood doping, which involves removal and subsequent reinfusion of the athlete's blood in order to increase the level of oxygen-carrying haemoglobin, has been practised since the 1970s. The IOC banned blood doping as a method in 1986.

Anti-doping work was complicated in the 1970s and 1980s by suspicions of state-sponsored doping practised in some countries. The most famous doping case of the 1980s concerned Ben Johnson, the 100 metre runner who tested positive for stanozolol (anabolic steroid) at the 1988 Olympic Games in Seoul. Johnson's case focused the world's attention to the doping problem to an unprecedented degree. In 1998 a large number of prohibited medical substances were found by the police in a raid during the Tour de France. The scandal led to a major reappraisal of the role of public authorities in anti-doping affairs. As early as 1963, France had been the first country to enact anti-doping legislation. Other countries followed suit, but international cooperation in anti-doping affairs was long restricted to the Council of Europe. In the 1980s there was a marked increase in cooperation between international sports authorities and various governmental agencies. Before 1998 debate was still taking place in several discrete forums (IOC, sports federations, individual governments), resulting in differing definitions, policies, and sanctions. One result of this confusion was that doping sanctions were often disputed and sometimes overruled in civil courts.

The Tour de France scandal highlighted the need for an independent international agency, which would set unified standards for anti-doping work and coordinate the efforts of sports organizations and public authorities. The IOC took the initiative and convened the World Conference on Doping in Sport in Lausanne in February 1999. Following the proposal of the Conference, the World Anti-Doping Agency (WADA) was established on 10 November 1999. On 5 March 2003, at the second World Conference on Doping in Sport, some 1200 delegates representing 80 governments, the IOC, the International Paralympic Committee, all Olympic sports, national Olympic and Paralympic committees, athletes, national anti-doping organisations, and international agencies supported the World Anti-Doping Code as the basis for the fight against doping in sport. The Code entered into force on 1 January 2004. On 19 October 2005, the World Anti-Doping Code was adopted at the 1st International Convention against Doping in Sport by the General Conference of UNESCO at its plenary session. Some 184 countries have signed the Copenhagen Declaration on Anti-Doping in Sport, the political document through which governments show their intention to implement the World

Anti-Doping Code by the ratification of the UNESCO Convention.

DOPING CONTROL IN FOOTBALL

FIFA introduced an anti-doping programme in 1966 at the World Championship, being one of the first international sports federations to do so.The fundamental aims stipulated in the FIFA doping control regulations (2006) are quite similar to the purpose of the World Anti-Doping Code programme set out below.

DEFINITIONS

The word doping is probably derived from the old Dutch word *dop*, which was the name of an alcoholic beverage made of grape skins used by Zulu warriors to enhance their prowess in battle. The term progressed into mainstream use in the early twentieth century, originally referring to drugging of race-horses. The practice of enhancing performance through foreign substances or other artificial means, however, is as old as competitive sport itself. According to the definition of doping in the World Anti-Doping Code,[1] doping is defined as the occurrence of one or more of the following violations:

- The presence of a Prohibited Substance or its Metabolites or Markers in an Athlete's bodily Specimen (strict liability rule).
- Possession by an athlete at any time or place of a Substance that is prohibited in out-of-competition testing or a Prohibited Method, unless the athlete establishes that possession is pursuant to a therapeutic use exemption granted in accordance with the FIFA Doping Control Regulations regarding the therapeutical use of forbidden substances or other acceptable justification.
- Possession of a Substance that is prohibited in out-of-competition testing or Prohibited Method by athlete Support personnel in connection with an athlete, competition or training, unless the athlete support personnel establishes that the possession is pursuant to a therapeutic use exemption as described previously
- Trafficking in any Prohibited Substance or Prohibited Method is still a violation of the anti-doping regulations and in most of the law systems an illegal act against the medical preparations law.
- Administration or the attempted administration of a Prohibited Method to any athlete, or assisting, encouraging, aiding, abetting or covering up as well as any other type of complicity involving an anti-doping rule violation or any attempted violation.

As set forth in the preamble of the World Anti-Doping Code, the purposes of the World Anti-Doping Program are:

- To protect the athletes' fundamental right to participate in doping-free sport and thus promote health, fairness, and equality for Athletes worldwide; and
- To ensure harmonized, coordinated, and effective anti-doping programs at the international and national level with regard to detection, deterrence, and prevention of doping.

Prohibited substances in the context of these regulations are regularly published in the:

- WADA list of prohibited substances (www.wada-ama.org)

and

- are included as Appendix A of the FIFA Doping Control Regulations (www.FIFA.com)

MEDICOLEGAL IMPLICATIONS

Strict liability rule

The reason for the strict liability rule has been comprehensively stated by the Court of Arbitration for Sport, Lausanne in some cases—for example, the case of Quigley *v* International Shooting Union in 1995.[2]

> ''It is true that a strict liability test is likely in some sense to be unfair in an individual case, such as that of Quigley, where the athlete may have taken medication as the result of mislabelling or faulty advice for which he or she is not responsible—particularly in the circumstances of sudden illness in a foreign country. But it is also in some sense unfair for an athlete to get food poisoned on the eve of an important competition be altered to undo unfairness. Just as the competition will not be postponed to await the athlete's recovery, so the prohibition of banned substances will not be lifted in recognition of its accidental absorption. The vicissitudes of competition, like those of life generally, may create many types of unfairness, whether by accident or the negligence of unaccountable persons, which the law cannot repair.
> Furthermore, it appears to be a laudable policy objective not to repair an accidental unfairness to an individual by creating an intentional unfairness to the whole body of other competitors. This is what would happen if banned performance-enhancing substances were tolerated when absorbed inadvertently. Moreover, it is likely that even intentional abuse would in many cases escape sanction for lack of proof of guilty intent. And it is certain that a requirement if intent would invite costly litigation that may well cripple federations—particularly those run on modest budgets—in their fight against doping.''

The whereabouts rule

Apart from such special cases, effective doping controls are bonded to out-of-competition tests. Without accurate athlete location information such controls may be inefficient and sometimes impossible. This so called ''whereabouts rule'' requires athletes and/or teams that have been identified for out-of-competition control to be responsible for providing and updating information on their whereabouts so that they can be located for No Advance Notice out-of-competition control. The applicable requirements are set by the responsible sport federation or national anti-doping organisation to allow some flexibility based upon varying circumstances encountered in different sports and countries. A violation of this rule may be based on either intentional or negligent conduct by the athlete, but it is known that the whereabouts rule may not be realistic in international team sports, in which players are normally playing for a club far from their home nation.

Separation of power

An important legal principle is the separation of power between the anti-doping executive authorities and the disciplinary committee responsible for the administration of anti-doping sanctions. This is to minimise any accusations of bias or conflict of interest in the application of the Code.

Under FIFA regulations, this principle is applied in a practical sense by having the Doping Control Sub-Committee (representing medical, pharmacological, and medicolegal expertise) dealing with the medical and biochemical aspects of the alleged doping event and, once this issue has been determined, a separate Disciplinary Committee which awards the appropriate sanction in view of the individual

circumstances of the athlete concerned. The exact procedure is described below.

MEDICOLEGAL ASPECTS OF DOPING CONTROL PROCEDURES

The full details of the FIFA doping control procedure are set out in the annually updated FIFA Doping Control Regulations (www.fifa.com/en/regulations/regulation/0,1584,9,00.html). With regard to the medicolegal aspects of doping control procedures, the process is as follows:

- Once an A sample has tested positive, then the FIFA Doping Control Sub-Committee investigates the documentation of the case and prepares a report for the FIFA Chief Doping Control Officer. The FIFA Chief Doping Control Officer has to verify that the correct doping control procedures have been completed according to the doping control regulations. This process usually involves contacting the testing laboratory as well as the original doping control coordinator where the athlete was tested.
- If the analysis of the A sample is confirmed as positive by the FIFA Doping Control Sub-Committee's report, the FIFA General Secretary shall at once confidentially notify the chairman of the Disciplinary Committee, the Sports Medical Committee and the national association of the player concerned, which shall have the right to request a second analysis using the B sample within 24 hours of being notified.
- If a second analysis is requested, FIFA shall communicate this request immediately to the head of the laboratory where the B sample is being kept. An analysis of the B sample shall be carried out as soon as possible, by personnel who were not directly involved with the analysis of the A sample. The association concerned shall have the right to have a representative present, in addition to the player concerned. The results of the analysis of the B sample shall be sent immediately to the FIFA Chief Doping Control Officer responsible, by fax or e-mail. If no request for a second test is made, the laboratory shall dispose off sample B after 30 days have elapsed.

In addition to the procedural roles above, the FIFA Chief Medical Officer and the Doping Control Sub-Committee also have to estimate the seriousness of the individual case from the medical point of view as to whether the violation was intentional (partially autonomous but not fully self-responsible), deliberate (fully autonomous) or negligent and examine whether any exceptional circumstances may apply. Finally, a written statement about the medical analysis of the case including an estimation of the medicolegal aspects has to be submitted to the FIFA Disciplinary Committee for consideration of sanctions.

In cases where FIFA is asked by a national federation or a confederation to take over the sanction or decide about a sanction for the international level, the same procedure is carried out. The individual case management as outlined above is an integral part of FIFA's approach to doping control and based on Swiss sanction law. This means that there must be evidence that the player is personally guilty of the offence being sanctioned and the unjustness of his behaviour has to be obvious to him. Thus, every sanction inevitably contains a distinctive individual component.

PROBLEMS THAT REMAIN TO BE SOLVED

With regard to the ongoing development of new substances and laboratory methods, regular review of standards and regulations is necessary for appropriate anti-doping action in accordance with the scientific evidence and sport ethics.

The T/E ratio

The lowering of the threshold for the ratio of testosterone to epitestosterone (T/E) from 6 to 4 has led to intense discussion with the accredited laboratories and raised concerns on behalf of FIFA. According to the FIFA database 2005 none of the samples with elevated ratios between 4 and 6 showed evidence of exogenous intake in the gas chromatography isotope ratio mass spectrometry (GC-IRMS) tests. In face of the logistic impact and additional costs FIFA should strongly advocate detailed statistical analysis of the WADA data, examining the incidence of exogenous intake of testosterone in samples with T/E ratios between 4 and 6. Furthermore, legal difficulties arise in cases where the T/E ratio is between 4 and 6 but GC-IRMS does not verify exogenous intake.

α-Reductase inhibitors

The increasing use of α-reductase inhibitors for treatment of male pattern baldness has led to positive urine samples of athletes for finasteride, the main metabolite. Finasteride is a banned substance listed under S5. Diuretics and masking agents in the doping control regulations. Only recently a German football player was suspended by the supreme court of the German Soccer Federation for six months with additional fine after a positive result for finasteride.[3] In this case, the laboratory explicitly used more sensitive analytical methods which could not identify any traces of anabolic steroids in the sample—a finding that is not covered by the World Anti-Doping Code. This case illustrates several critical medicolegal aspects which have to be addressed, including the questions of a psychological disease and the eligibility for a therapeutic use exemption in case of male pattern baldness.

Recreational drugs

Recent years have shown a constant increase of positive tests for recreational drugs. While this finding reveals rather a social than a doping problem in the sense of the word, an important legal aspect has to be considered too: the consumption of marihuana presents a severe offence against the law in some countries especially in Africa and Asia, even if consumed abroad. Here, the publication of a positive result may lead to serious consequences for the respective player including a prison sentence. Anti-doping bodies should therefore carefully reconsider the unconditioned ban of recreational drugs, preferably based on a juridical expert's opinion.

CONCLUSION

While the World Anti-Doping Code and the Doping Control Regulations of FIFA offer a comprehensive basis for the fight against doping, the permanent progress in the development of new substances as well as laboratory methods calls for regular review and update of adopted policies. Whereas harmonisation of the strategies of national and international anti-doping agencies is reinforced, the legislation and politics of different countries constitute a permanent obstacle. Any regulation concerning medicolegal aspects should therefore be based on scientific evidence and juridical expertise and has to be supported by close collaboration of national and international bodies.

Competing interests: none declared

REFERENCES

1 **World Anti-Doping Agency**. *World Anti-Doping Code 2003*. Montreal, World Anti-Doping Agency, 2003, www.wada-ama.org.
2 **Blackshaw IS**, Siekman RCR, Soek J. The Court of Arbitration for Sport 1984–2004; decisions 1995; CAS 94/129, Asser Press and Cambridge University Press, 2006.
3 **Bundesgericht des Deutschen Fussballbundes DFB**, Decision Nr. 3/2005/, 2006.