

Sex testing at the Olympics

SIR — During the 1992 Olympic Games at Albertville, a number of geneticists expressed serious doubts about the expediency of sex chromosome testing.

Barr's method has been used by the International Olympic Committee (IOC) and the International Amateur Athletic Federation (IAAF) since 1967. Because of its known shortcomings, in particular regarding XXY type abnormalities, the IOC replaced it with a method based on amplification of the Sry gene¹, used for the first time during the Albertville Games in France². The absence of the Sry gene seems to be a key element in determining the female sex, although it obviously cannot replace all the genetic, hormonal and phenotypic criteria that characterize gender³.

As the IOC's sole aim is to find an efficient solution to the practical problems of fraud screening before competitions, tests should be assessed with this in mind.

Only athletes competing in women's events are screened for fraud, as a woman winning in a male event is unheard of. The amplification of the Sry gene may fail to recognize certain XX men, but what are the chances of coming across such a rarity in an Olympic competition? The problem of women who are insensitive to androgens (1 in 20,000, XY subjects currently classified as male hermaphrodites) clearly illustrates the limits we set to our mission. Contrary to some reports, this test has never been used by the IOC to disqualify athletes. It simply leads to an in-depth study by a medical commission which makes its ruling on the merits of the particular case.

The unique practical tests we carried out on 557 athletes at the Albertville Olympics led us to the following conclusions.

The issue of gender verification itself is not at stake. It excludes athletes who do not satisfy the requisite criteria to compete in a women's event and also protects athletes whose physical appearance might give rise to suspicion of fraud.

Thanks to the use of buccal smears and the stability of DNA, the test is practical to perform. Much greater reliability (over 99 per cent) is achieved than with possible alternatives, past or present. In the context of intense physical effort, hormonology would not be reliable and would solve neither the problem of androgen insensitivity nor other controversial cases. As for the direct examination of the genitals proposed by the IAAF⁴, there is a risk of certain cases of transsexualism mentioned by Ferguson-Smith⁵ being missed. Furthermore, most athletes agree on one

point: a gynaecological examination for purely sporting purposes is a traumatic experience.

The IOC has therefore decided to continue using sex chromosome testing while improving its reliability. Because this test is likely to deter anybody tempted to cheat, the test should lead to an in-depth medical examination only in rare cases. This strict method, used for the first time at Albertville, is welcomed by athletes and is likely to receive wider acceptance in the future.

B. Dingeon

Département de Biologie

P. Hamon

M. Robert

Département d'Endocrinologie,
Centre Hospitalier BP 1125,
73011 Chambéry Cedex, France

P. Schamasch

COJO,
73206 Albertville, France

M. Pugeat

Département d'Endocrinologie,
Centre Hospitalier,
Universitaire Antiquaille,
69005 Lyon, France

1. Koopman, P., Gubbay, J., Vivian, N., Goodfellow, P. & Lovell-Badge, R. *Nature* **351**, 117–121 (1991).
2. Dingeon, B., Onclercq, R., Berthaud, A., Thomé, H. & Lebacqz, P. *Option Bio.* **61**, VI–VII (1991).
3. Bassis, L. M. J. *Am. med. Ass.* **257**, 1896–1897 (1987).
4. Ljungqvist, A. & Simpson, J. L. J. *Am. med. Ass.* **267**, 850–852 (1992).
5. Ferguson-Smith, M. A. & Ferris, E. A. *Br. J. Sp. Med.* **25**, 1, 17–20 (1991).

AIDS causation

SIR — John Maddox (*Nature* **358**, 13; 1992) takes *The Sunday Times* to task for reporting that anal intercourse was present as a risk factor in the case of the Birmingham haemophilic who appears to have infected four women with human immunodeficiency virus (HIV). Why is a journal dedicated to science so afraid of facts?

The health authority in Birmingham started a national panic on the basis that transmission of the virus had resulted from "straightforward heterosexual intercourse". It declared that other risk factors had been ruled out. Our inquiries produced three relevant findings:

- (1) There had been minimal investigation into the circumstances in which HIV had been transmitted, so the assurances given to the press that no other risk factors were involved were unfounded.
- (2) The young woman who died of pneumonia was admitted to hospital in such a breathless state that she had to be sedated and put on a ventilator immediately. There was no chance to question her about her lifestyle before she

died. Neither her parents nor her long-term boyfriend had been approached by health officials to learn more of the circumstances of her death. All she had told the doctors was that she had been out with a haemophilic, on which basis she was tested for HIV antibodies and found to be positive — hence the AIDS diagnosis.

(3) The haemophilic at the centre of the affair had anal intercourse "more often than not", according to one of his former girlfriends, and two others said they had had intercourse with him this way.

At no point did we suggest that the hazards of anal intercourse were novel. The "new evidence" referred to in our headline concerned the above. Nor did we deny the possibility of HIV transmission through normal heterosexual intercourse. We quoted Professor Gordon Stewart as saying that the transmission rate with that method of intercourse was low.

You accuse us of putting consistency before correctness, but where is the incorrectness in what we reported?

You are also absolutely wrong in calling *The Sunday Times* a convert to Peter Duesberg's view that HIV is irrelevant to AIDS "and the comforting corollary that people have nothing to fear from heterosexual intercourse".

We examined Duesberg's ideas and decided that his challenge to the conventional view of HIV as the cause of AIDS was worth reporting, for the first time, in a national newspaper, along with that of the 50-strong "Group for the Scientific Reappraisal of the HIV/AIDS hypothesis". We stand by that decision. It does not mean we accept his alternative views on AIDS causation.

In the same issue in which we reported Duesberg's challenge, we carried a two-column interview with Professor Luc Montagnier, in which he made clear his own view that "without HIV, I don't think we would have AIDS epidemics", though he also declared his belief that there are some AIDS cases in which HIV plays no part. The following weekend, we reported on the work by Professor Angus Dalgleish and others to find a treatment based on the theory that HIV triggers an autoimmune reaction leading to AIDS.

We do however consider that Duesberg has raised some important questions. His claim that mainstream science has climbed on an HIV bandwagon which it defends in an unreasoning way is supported by your unwarranted attack on our coverage.

Neville Hodgkinson
(*Science Correspondent*)
The Sunday Times,
1 Pennington Street,
London E1 9XW, UK