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Eye Injuries from Traditional Sports in Aosta Valley

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Key Words

Protective equipments

Sports-related eye injuries

Trauma

Abstract

We reviewed the records of the patients hospitalised for eye injuries in Aosta Valley between January 1976 and June 1993. Eye injuries from traditional regional sports accounted for 27 cases (41.5% of all ocular sport injuries), of which 21 (77.8%) occurred during the game 'tsan', the most popular one. Injuries led to legal blindness in 3 (11.1%) cases and to a permanent visual loss in 2 (7.4%). Although our data do not allow to assess either a significantly higher incidence or severity of eye injuries from Aosta Valley regional games as compared with other sports, the possibility of severe trauma with visual loss suggests to extend the use of protection devices.

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Traditional regional sports have been played in Aosta Valley since the 18th century. At the present time, almost 3,000 players participate in such sports, of which popularity is growing. The most practised among them, called 'tsan', is a variant of several ball games once very popular in the Alps, of which 'hornuss' is still actively practised in Switzerland. In 'tsan', a ball is hit as far as 30 m or more by a striker: the opposing team fields, trying to touch the ball with a thick wooden club, either held or thrown in the air towards the ball (fig. 1). In 'fiolet' and 'rebatta', the players alternate in hitting the balls as far as possible.

Method and Results

To verify the ophthalmologic risks of these sports, we conducted a survey on clinical records of patients hospitalised for eye injuries at Aosta Valley Regional Hospital between January 1976 and June 1993. We also reviewed the subsequent outpatient records to determine the clinical evolution and visual outcome.

Out of 659 records of ocular injuries, sports-related traumata accounted for 65 (9.9%) cases.

Traumata from regional sports accounted for 27 cases (41.5% of ocular sport injuries). Twenty-one (77.8%) cases occurred during the game 'tsan' (in 168,000 estimated

Fig. 1. Fielding in the game 'tsan'. Note the ball and the two clubs thrown over the player's head.

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Table 1. Types of ocular injuries

per single player, i.e. 12.5 per 100,000 sessions), 5 (18.5%) during the game 'fiolet' (in 66,000 estimated sessions/player, i.e. 7.6 per 100,000 sessions) and 1 (3.7%) during the game 'rebatta'. All patients were male, their ages ranging between 12 and 58 years (median 22). All injuries were unilateral, the right eye being affected in 18 cases (66.7%). None had worn protective devices. Lesions were due to the direct impact of the balls in all cases but 1 (fragments of broken spectacle glass).

Table 1 shows the type and severity of injuries in our series. Injuries led to legal blindness of the affected eye in 3 (11.1%) cases, due to endophthalmitis from an intrabulbar foreign body, a scleral laceration with iris prolapse, and a macular hole. In 2 (7.4%) cases there was permanent visual loss, one from a subluxated lens in the anterior chamber with corneal oedema and the other from a traumatic cataract. In other cases, there was no visual deficit, with anatomical recovery of the lesions in all patients but 2, who suffered a permanent angle recession but without increased IOP so far.

point of the ball, they can be hit not only by the ball itself but also by the clubs thrown to touch it. The safety of the onlookers is not generally in jeopardy. The ball is spherical, 4 cm in diameter, made of boxwood. Although frequent, eye injuries in 'tsan' are less severe than in the other sports, because the ball is lighter and is often stopped by the orbit or the cheek-bone, because of its larger size.

In 'fiolet' and 'rebatta', on the other hand, since the fields have no definite side boundaries, onlookers may happen to stand in the trajectory of the ball. The balls are smaller than in 'tsan',

but in 'fiolet' they are heavier, being covered with metal nails: thus, they can reach the eye with much higher impact energy and are less likely to be stopped by the orbit or the cheek-bone. In our series, the estimated injury rate was 12.5 per 100,000 sessions played in 'tsan', and 7.6 per 100,000 in 'fiolet'. Barrell et al. [1] found an inpatient eye injury rate of 2.0 per 100,000 sessions in squash, 0.6 in cricket, 0.5 in badminton and 0.3 in both tennis and football. In another estimate [2], 9.4 eye injuries per 100,000 sessions were reported in competitive squash games. Although no direct comparison with other sports is available, it is apparent from this study that 'tsan' and 'fiolet' carry a definite oph-thalmologic risk.

As other sports-related eye injuries, this is a mostly preventable problem [3,4]. Since 1984, a protective helmet is mandatory for 'tsan' players under 16 years of age: no ocular injury has been recorded in that population so far.

Unfortunately, still much resistance is offered by old players because of the alleged discomfort of such devices. Hopefully, the possibility of severe ocular traumata with visual loss will suggest an open-minded approach to the issue of ocular safety, even in traditional sports.

Discussion

Traditional sports are still practised in many countries, mainly due to their deep roots in popular culture and the low costs of equipment and facilities. Many among them carry relevant traumatic risks, but, in most cases, both data on their harmfulness and adequate safety regulations are lacking.

In Aosta Valley, the possibility of significant head and eye injuries in these games is well known. In 'tsan', when the players of the fielding team cluster towards the landing

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