Cardiac arrests in sports events

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Purpose of the study

Sudden cardiac arrest during sports is an extremely uncommon event that has a very strong impact both on media and society. We aim to study the basic epidemiological characteristics and outcome when life support is performed and compare to those in overall population (OP) in order to try to define specific preventive actions to improve its outcome.

Material and methods

Descriptive, retrospective, observational study. Study period: January 1st 2015 to December 31st 2016.

Inclusion criteria: OHCA at sports event (Utstein definition) assisted by SAMU-Asturias, regardless of treatment: basic life support (BLS), advanced cardiovascular life support (ACLS) or no treatment.

Data collected from clinical reports, both in paper and digital, and Utstein based OHCA registry, and analysed with SPSS Statistics 21 software.

Results

Out of 1108 OHCA registered by the EMS, 7 (0.6%) occurred at sports events. 6 of the patients (85.7%) were male. The average age was 48.1 years ($s=21.8$), being 66.7 ($s=16.3$) in OP. OHCA was witnessed in 85.7% of cases, being 66.3% in OP.

*Cardiac arrests in Asturias 2015-2016
(1108 cases)*

Bystander BLS was performed in 6 patients (85.7%), with use of AED in 3 (42.9%), all with at least one shock delivered; in overall population AED was used in 159 cases (14.4%), and at least one shock was delivered in 46 of them (28.8%).

BLS in CA in sports events

ACLS was provided by an EMS unit in 2 patients, both with initial shockable rhythm. The EMS team provided postresuscitation care, due to return to spontaneous circulation prior to their arrival, in 1 patient.

All 3 were survived events (100%), being the rate in overall population 25.9% ($p=0.01$). 100% of hospital discharged cases, being this rate in OP 8.2%.

Good neurological outcome, scoring CPC 1, was found in 2 patients (66.6%), while 1 patient (33.3%), had a CPC 4.

Survival in CA that received ACLS

Conclusions

- The incidence proves to be extremely low thus limiting the statistical validity of this study.
- Trends show high rates of witnessed CA and bystander CPR, and better short-term survival in those with survived event.
- Utstein definition does not discriminate organised sport events and casual sports practice.

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