PROFESSIONAL ARTICLE

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CHEST PAIN IN ATHLETES

SUMMARY

Athletes often complain about different kinds of discomfort difficulties during the sports training. The young athletes most often have symptoms which are benign, weakness, loss of vitality and exhaustion as a consequence of dehydration, chest pain (it has a typical angina pectoris kind of a pain) as a consequence of musculoskeletal injuries during the training (especially in sports which require body contact and weight lifters), palpitations, as a consequence of premature contractions and lack of air when breathing, and sometimes suffocation due to Bronchospasm induced by effort. Manifestation of Syncope is an alarming and dramatic sign of imminent endangered condition of an athlete and represents the symptoms which require detailed tests (Syncope is a possible kind of a prediction of a sudden cardiac death).

1. INTRODUCTION

Chest pain in young athletes is a relatively often discomfort difficulty due to which they ask help from internal medicine urgent care on duty. However, the chest pain in young athletes is often benign. After performing diagnostic procedure which includes taking medical history, information on Cardiovascular disease in family history, physical medical examination, ECG and additional tests when necessary, the most often given diagnosis is that of idiopathic chest pain. Reflexive esophagus disease, costochondritis, asthmatic bronchitis and psychogenic pain should always be differed from cardiac pain.

2. PURPOSE OF WORK

To imply the benign chest pain and point out the symptoms which cease to be benign.

3. TOPIC ANALYSIS

Chest pain in athletes which appears rarely and does not last long is often benign. Prolonged chest pain, such as the pain which appears often even when making little efforts, require a special doctor's attention. Syncope, presyncope and dizziness when young athletes make efforts always represent an alarming sign which requires the biggest doctor's attention. Echocardiogram is necessary in all cases and it can be a huge help when confirming hypertrophic cardiomyopathy diagnosis and other heart diseases. Also, cardiac catheterization with selective coronagraphy may be indicated in further diagnostic procedure because of examination of coronary arteries morphology, anomalies in young athletes, coronary diseases in older adults.

When suspecting the existence of accompanying abnormalities, the Holter – ECG monitoring with eventual electrophysiological tests is indicated. Athletes who are faced with cardiac and respiratory arrest often survive it. That is why the installation

of automatic external defibrillators in sport facilities became more topical, so as their use by non-medical staff. There are no conditions for continuous performance of cardiopulmonary resuscitation (CPR) at different levels for employees in both Health and Non-Health Systems in our country. In some countries (e.g. USA) even the rescue services (firemen, police, security services) are legally obligated to start reanimation and use external automatic defibrillator in public places. In case if in the future these measures are taken in sport fields too, it is believed that the number of deaths of athletes caused by cardiac arrest would be reduced. Nevertheless, it should be pointed out that every symptom in the most successful athletes requires all necessary examinations which would encourage the athlete and persuade a doctor that it is a benign symptom.

It is important to emphasize that there is a difference between a heart attack and a sudden cardiac arrest. Heart attack appears as a block of blood flow in coronary artery or its branches, which further blocks the blood flow into heart and thus damages the heart muscle. As opposed to that, a sudden cardiac arrest happens when electrical signals which control the heart's pumping ability cause short circuit. Heart can suddenly start to beat very fast making its ventricle quiver instead pumping the blood in a coordinated manner. This kind of rhythm disorder is called ventricular fibrillation and it happens as an answer to a heart problem which may or may not be discovered. Ventricular fibrillation disrupts heart pumping action thus blocking the blood flow to the rest of the body. A person who suffers a sudden heart attack falls down all of a sudden, faints, loses the pulse and stops breathing.

Without immediate CPR or a strike from automatic defibrillator, the person usually dies in a few minutes which is why it is called a sudden heart death.

However, there is a connection between a heart attack and sudden cardiac arrest. Heart attack may create "electrical heart damage" which can bring to a sudden heart attack.

4. DISCUSSION

Clearly it is important to notice the problems which bring to a sudden cardiac arrest because then we are able to use a certain therapy which can minimize the risk of heart arrest. Some young people may be in such a danger that they will have to do sport, while others will have to take beta blockers in order to prevent the heart from beating too fast, otherwise they would need to implant defibrillator which can make heart beat normally by using electric shocks. Everything should be done in order to efficiently prevent such tragic things. Pre-competition screening (control) of athletes in order to spot occult cardiovascular diseases is the most efficient way of prevention. Having in mind a huge number of young people who do sports on regular basis, including students who attend obligatory physical training in their schools, the screening must be organized in order to be efficient and successful in discovering possible samples of heart death. On the other hand, it should be economically sustainable and adjusted to specific features of each country.

In order to decrease the number of tragic deaths in sport in Italy, Scandinavian countries and especially in USA, during the last few decades the pre-competition cardiovascular screening programs are being performed. Not long time ago, even the European Association of Cardiologists published the common European recommendations for cardiovascular screening of competitive athletes. The basic goal of European recommendations is implementation of minimal basic diagnostic cardiovascular tests of competitive athletes in all European countries.

5. CONCLUSION

In regard to the fact that physical activity and starting doing sport have positive effect on mental and physical health, it is recommended for athletes to make a useful estimation of the functional cardiologic status and anatomic changes through the role of a receiving cardiologic and individual protocol for each athlete individually. However, even though it's very rare, due to its tragic nature, every case of a sudden death of athletes always causes a huge publicity of both general social public and health and sport institutions, so it sets an inevitable question whether it should be prevented and if all necessary measures were taken. Unfortunately, in our country there are still no national recommendations which would be obligatory for a screening of competitive athletes. Sport Unions and Clubs are responsible for organization of screenings and regular medical checkups of athletes.

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