

Abstract

INTEGRATED MANAGEMENT FOR THERAPEUTIC EFFICIENCY IN RECOVERY OF THE ATHLETES WITH MUSCULOSKELETAL TRAUMAS

PhD student Iuliu Moldovan

Scientific tutor Klara Brînzaniuc PhD

Key words: sports injuries, medical recovery, recovery procedure, integrated management

Introduction

Practicing a sport at the level of amateur or professional lately experienced a tremendous development, by the variety of sports played, competitive level and sports performance, consequently leading to an increase in the number of patients with sports traumatic pathology. Studies on sports traumatology are important for the decisions makers in sports, sports managers, medical equipment manufacturers, practitioners, and last but not least for the family.

Aim

The main aim of the study is to evaluate the current treatment techniques in terms of cost, efficiency within integrated management of sports traumas recovery so that the athlete should be able to resume work as soon as possible.

Material and method

Determining the type of musculoskeletal injuries in patients with sports trauma was performed by multiple imaging procedures, the most common being the musculoskeletal ultrasound. The ultrasound examination was performed in dynamic on 1, 3, 5, days from the date of diagnosis and initiation of treatment.

The first study, the descriptive type, was conducted on a sample of 189 patients from January 2011 - December 2012 who suffered muscular- articular, tendinous and ligaments injuries, after practicing sport at the level of amateur or professional, at the Nova Vita Centre of Rehabilitation from Targu Mures. Evaluation of musculoskeletal lesions by ultrasound was compulsory, and of the study group, 92 patients who received standard treatment, under strict monitoring and evaluation were evaluated and compared with the next batch of study.

The second study, the retrospective type, was conducted by including a number of 81 patients, from January 2011 - December 2012, with musculo-articular injuries after practicing sport at the amateur level or of occupational injuries in the Reghin recovery care centre.

The third study was a cost-benefit efficiency one, considering that the first group was the one with addressability to the private system recovery, unlike the second lot with public addressing.

Data were collected and analyzed from patient records. Structure indicators, frequency and averages were calculated. In order to verify various associations between the attributes of the lot, Fisher's test was used.

Results

In the first study group, the average age is 33.5 years with a minimum age of 15 years and a maximum age of 59 years. Analysis by the practice mode of a sport and type of sport shows that 54% are amateur and 46 % are professionals, practicing individual or group sports, dominated by sports such as football, basketball, handball, and followed by individual sports, skiing and tennis. Football is responsible for one third of cases of traumatic injuries. The most affected region is the knee. At the lesion level, including muscles, tendons, ligaments injuries the study reveals that the most affected are the ligamentous structures, 39 %, followed by the tendons and muscles. Complex lesions are most common in the shoulder region. Treatment of muscle injuries was achieved in 95 % of cases by tecartherapy with an average duration of 7 days. Laser treatment has been used to complex

lesions in a proportion of 33 % with a recovery average duration of 6.5 days. The most costly injuries are those in the knee region.

In the case of the second group, occupational injuries are the most common. The most common injuries are in the knee. Post traumatic recovery period is of 10-14 days. In 60% of the cases, the patients had a therapeutic treatment plan that included laser therapy, ultrasound therapy, physiotherapy and massage.

Evaluation of recovery treatment costs in the two groups show higher costs in the first group, in which are used in addition, besides the established methods of recovery, the latest generation methods (high-power laser therapy, tecartherapy) in an integrated system with reduced the recovery duration of 5 -7 days for certain diseases.

Discussions

Evaluation of correlations between the sport practiced and the affected regions, showed that affection of the knee region is closely related to practicing football and skiing, ankle region with football, the shoulder region with tennis, thigh region with football.

It has been shown that there is a correlation between the type of sport practiced and the type of lesion as follows: between football and muscle injuries, between skiing and ligament injuries, between tennis and tendon injuries.

The analyzed data are also important in preventing sports injuries by proper scientific evaluation and proper medical-sports selection.

Noting the association between the type of lesion and the affected region are relevant the relations between the ligament injuries and the knee region, tendon injuries and the ankle, the muscle injuries and thigh region, complex injuries to the shoulder.

Assessing all the recovery procedures, both the modern, tecartherapy , laser therapy , shock wave therapy and the classical ones, physical therapy, massage, hydrokinetotherapy , ultrasound therapy , electrotherapy , etc., have shown that modern procedures, such as tecartherapy are current methods with high recovery efficiency for sports injuries and throughout recovery, the most appropriate by evaluating the specific costs

Conclusions

The most frequent injuries occur in males (60 -70%) similar to the data from specialized literature.

The most affected region by injuries is the knee, one third of cases, knee injuries are present in all the sports practiced, taken into consideration in the study.

At the lesion level, the most affected are the ligament structures about 39% due to skiing and football practice at amateur level and football at professional level.

Although ultrasound allows an accurate description of the injuries and their staging according to the time factor, it is nevertheless required a multidisciplinary approach to each case (sonographer- orthopedist-physician orthopedic recovery), common knowledge of tracking protocols and treatment for each lesion in order to achieve therapeutic success.

Tecartherapy may be considered a first-line treatment method of patients with muscle injuries occurring in sports traumas.

Using modern methods for physical and medical rehabilitation with an efficient diagnosis of repeated microtraumas, of acute major trauma, we prevent their complications and limit the exercise and performance capacity.