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THE CURRENT ISSUE OF THE INJECTABLE THERAPY OF THE KNEES INJURIES AND DISEASES

ABSTRACT

Today, there is a high significance of the consequences of injuries and diseases of the musculoskeletal system economically, medically and socially because of the high costs of treatment and rehabilitation, as well as a long period of incapability to treatment or permanent disability. There is a significant increase in the incidence of degenerative-dystrophic diseases of large joints everywhere. According to the literature, 9 to 13% of the world's population suffers from osteoarthritis. Incorrect or untimely treatment can quickly lead to aggressive surgical interventions. The article describes modern approaches to injectable therapy of the knees injuries and diseases.

Keywords: gonarthrosis, conservative treatment of osteoarthritis, hyaluronic acid, plate rich plasma

Introduction

Today, there is a high significance of injuries and diseases of large joints in the economic and medical-social terms due to high costs of treatment and rehabilitation, as well as a long period of incapacity for work or permanent disability [1].

Osteoarthritis (OA) is a chronic polyethiologic degenerative-dystrophic disease characterized by a prolonged progressive course and development of pain syndrome [7]. In this process, the synovial membrane, articular cartilage and other periarticular structures are involved.

The study of the results of 31516 arthroscopic interventions for damage and diseases of large joints showed that in 63% of cases there was pathology of cartilage of various degrees, which requires therapeutic measures, including intra-articular injections [9].

More than 50% of patients in the polyclinic of orthopedic patients are associated with injuries and diseases of large joints [2]. According to literature data, 9 to 13% of the world's population suffers from osteoarthritis [8], others speak of incidence of up to 20% [16]. According to Russian authors, the incidence of knee arthrosis in the Russian Federation is 99.6 per 10 000 population [5]. According to some reports, every third patient is affected by both joints.

According to the literature, the quality of life of patients with degenerative - degenerative diseases of large joints is much lower than in diseases of the gastrointestinal tract, cardiovascular and respiratory diseases. Osteoarthritis, like some other diseases, causes a prolonged disability, has a negative psychological and economic impact on patients. [3].

Conservative therapy OA gives a positive result at stages 1 and 2 of the disease. In some situations, conservative treatment is also used at stage 3 gonarthrosis. The main principles of conservative treatment are: relief of pain syndrome, elimination of causes contributing to the progression of the

disease and restoration of lost functions [6].

Today the most popular drugs for conservative treatment of degenerative and dystrophic diseases of the knee joint are hyaluronic acid, platelet rich plasma and corticosteroids. [42]

Many modern studies report excellent results after intra-articular administration of hyaluronic acid preparations in the form of reduced pain syndrome and improvement of limb function [32, 20, 25].

Of interest is the work of Latin American colleagues who studied the effect of intra-articular administration of hyaluronic acid and the traditional conservative treatment of osteoarthritis in dogs. The study included 16 dogs and were divided into 2 groups. The authors concluded that both methods of treatment can reduce the clinical manifestations of osteoarthritis, but in the group with intra-articular administration of hyaluronic acid, the results were significantly better. [32]

Injection of highly purified hyaluronic acid, increase the viscosity of the synovial fluid and absorb the compressive forces, which is essential in the work of joints. [31].

Investigation of the chemical properties of synovial fluid after administration of the hyaluronic acid preparation showed that the positive effect persists for more than 6 months with a maximum from 5 to 13 weeks. Reduction of the pain syndrome and improvement of function in the joint are in any case comparable with the intake of NSAIDs, however, the best local effect is noted and the systemic effect is absent. [15]

In one of the large studies, various preparations of hyaluronic acid were used. The number of injections was 3 to 5 per week and a maximum of 11 for 23 weeks, the dose varied from 15 to 60 mg. The pain syndrome was assessed using the Visual Analog Scale (VAS) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). The authors reported that hyaluronic acid preparations have a safe and effective effect in the treatment of OA.

[26].

The question remains with regard to intra-articular injection of glucocorticoids. In rheumatology, this group of drugs has been used for a long time and successfully in the treatment of rheumatoid arthritis [4]. Most orthopedists say that in the treatment of gonarthrosis, glucocorticoids can only be used for osteoarthritis of 3rd stage with severe synovitis. [17, 21]

It is interesting to work in which the results of intra-articular injection of hyaluronic acid and corticosteroids were compared. The results indicate that, within 4 weeks after the injection, corticosteroids can produce better results, but hyaluronic acid preparations have a longer and safer effect. [13].

In one large study, 606 patients with gonarthrosis compared the results of intra-articular administration of hyaluronic acid, corticosteroids and placebo. Maximum efficiency was shown by the group with hyaluronic acid at 8, 12 and 24 weeks after treatment [14].

Some authors report that intra-articular administration of hyaluronic acid preparations significantly reduces the level of the inhibitor of plasminogen activation in cartilaginous and synovial cultures, which ensures a long-lasting effect of the drug [23].

The question of the influence of age on the results of OA treatment remains open. Some authors say that age does not affect the results of intraarticular administration of hyaluronic acid, but note that the long-term result remains to a greater extent in young patients (30). There is an opinion that the positive effect of corticosteroids can be prolonged by repeated administration of the drug every 3 months [28].

Our opinion is comparable with the results of large studies in which it is said about the greatest effectiveness of the administration of hyaluronic acid preparations at stage 2 of gonarthrosis, and in some cases also at stage III.

Increasingly, Plasma enriched with platelets (PRP) is used to treat diseases

and injuries of the musculoskeletal system. According to the literature, it contains growth factors that improve the regeneration of tissues. [10, 11, 12]. Osteoarthritis is the main indication for prescribing PRP. Consequently, most studies are aimed at evaluating the results of treatment of gonarthrosis [27,22,29], but there are a small number of articles on the treatment of coxarthrosis and arthrosis of the ankle. (10).

In many studies, complete safety and absence of any complications after the administration of PRP was confirmed [24,18].

In one of the large studies, the results of intraarticular administration of PRP and hyaluronic acid were compared. The authors reported that plasma allows more persistent and long lasting effect [18].

Of undoubted interest is the work carried out by DA Malanin. et al., in which 81 patients with gonarthrosis of 3 stage. In one of the groups The authors three times, intra-articularly administered PRP, in the other group the method of treatment was oral administration of NSAIDs. The authors reported on the effectiveness of intra-articular PRP administration, which reduced the pain syndrome and improved knee function in patients with stage III gonarthrosis for 9 weeks during their preparation for surgical treatment. [4]

The actual issue remains the use of hyaluronic acid and PRP in the joint. We managed to find out only one mention of the joint use of these drugs. According to The authors' data, the administration of PRP and hyaluronic acid into the joint cavity allows to summarize their positive effect [19].

We believe that intra-articular administration of drugs in the treatment of osteoarthritis fully justifies itself at the initial stages of the disease. At the III stage gonarthrosis, when surgical treatment is contraindicated or the patient refuses surgery, hyaluronic acid or PRP preparations along with NSAIDs also have a temporary curative effect. The choice between these two groups of drugs is completely left for the doctor performing this manipulation.

It should be noted that only complex, individual treatment of patients with injuries and diseases of the knee joint can achieve positive results and delay surgical treatment.

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SOCIAL - HYGIENIC AND MEDICAL-BIOLOGICAL FACTORS OF THE RISK OF CONGENITAL HEART DEFECTS DEVELOPMENT IN CHILDREN

ABSTRACT

The article presents an overview of the main socio-hygienic and medico-biological risk factors of congenital heart defects (CHD) in children. Determination of risk factors is essential in estimating and forecasting the frequency of CHD in the population.

Keywords: congenital heart defect, risk factor, children, pregnant women.

Introduction

Congenital heart defect (CHD) is a heterogeneous group of diseases, including isolated and combined anomalies of multifactorial etiology. In this regard, the study of risk factors for the development of the CHD is one of the key moments in the organization of primary prevention of this pathology. It is well known that most registers are aimed at identifying possible factors that contribute to the formation of mutational processes at both individual and population levels [2, 4]. The leading risk factors for the development of CHD in children can be conditionally divided into three groups: socio-hygienic, medical-biological and external-environmental factors. About 90% of the CHD are multifactorial, depending on the combined effect of hereditary factors and environmental factors [9].

1. Socio-hygienic risk factors for congenital heart disease.

According to a number of studies,

social risk factors include: the age of the mother at the time of childbirth is more than 35 years, the birth of children out of wedlock, the presence of more than four pregnancies in the anamnesis, the level of income in the family, the nature of the mother's nutrition, the level of education of the mother and father [13, 10].

In A.R. Safiullin's study (2012), it was shown that the diagnostic coefficient of congenital septal heart disease in relation to the «incomplete family» sign was maximum - 9 points with a threshold value of 2 or more points; more than four pregnancies - 5 points; coefficient «higher education of mother and father» - had a negative value (-3 and -5 points respectively). Given that the specialties of parents with secondary education and lower secondary education were often associated with the harmful effects of occupational factors (contact with fuels and lubricants, disinfectant solutions, building materials, etc.), the influence of the education level of

parents on the increased risk of birth children with congenital anomalies of the circulatory system. In addition, it can be assumed that parents with higher education control their health more carefully, plan pregnancy more carefully and have better contact with a gynecologist monitoring pregnancy. A more important role in increasing the risk of congenital anomalies may be played by more frequent alcohol, nicotine or drug dependence in pregnant women with a low level of education. At the same time, there was no adverse effect of the living conditions of the family on the increase in the risk of congenital septal heart disease [11].

Several other significant social risk factors were found in the study conducted in Primorsky Krai among children with congenital developmental anomalies. The authors attributed to them the increased urbanization of the territories (83%), the age of the mother under 25 (48.5%), the first pregnancy (42.4%) and