INTERNAL MEDICINE - PEDIATRICS

PSORIATIC RHEUMATISM. INFLAMMATORY ARTHROPATHY

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PSORIATIC RHEUMATISM. INFLAMMATORY ARTHROPATHY (Abstract): Psoriatic rheumatism is an inflammatory arthropathy associated with cutaneous psoriasis that occurs mainly in adults aged between 30 and 45 years. In most cases, cutaneous phenomena precede rheumatic manifestations. Psoriatic rheumatism may begin as a monoarthritis and the diagnosis will be confirmed by the presence of psoriatic plaques or by the personal and family history of psoriasis. As a chronic proliferative epidermal disease, psoriasis is due to a genetic predisposition and it is clinically expressed following the triggering action of several factors. The onset is preceded by various events. Psoriasis is two to three times more common in patients with arthritis and about 10-20% of psoriasis patients show joint damage. Aim: The present study aims to demonstrate the clinical and biological efficacy of biotechnology-derived biologic drugs, acting as TNFα antagonists and used as backup therapy, at the same time bringing new hope for broadening and improving therapy in psoriatic arthropathy. Material and methods: The study included a total of 21 patients (13 men, 8 women) admitted in the interval 2011-2012 to the I-st Rheumatology Clinic of the Iasi Rehabilitation Hospital. The patients were older than 20 years and had one or more peripheral arthritis conditions, skin and nail lesions. Results and discussion: Based on the results, it is recommended that infliximab to be administered in patients who meet CASPAR ((Classification Criteria for Psoriatic Arthritis) diagnostic criteria, have the disease in aggressive stage, and do not respond to treatment with methotrexate (MTX) or other disease-modifying antirheumatic drugs - DMARDs (leflunomide, sulfasalazine) administered for 12 weeks. Conclusions: Infliximab is effective in counteracting the potentially harmful elements. It reduces the number of tender and swollen joints, improves the functional capacity and the quality of life, and slows down the radiologic progression. Infliximab is well tolerated, effective, with an optimum safety profile during short-term administration in patients with active forms of psoriatic arthropathy. Keywords: INFLAMMATORY ARTHROPATHY, CLINICAL MANIFESTATIONS, EARLY DIAGNOSIS, DIAGNOSTIC CRITERIA.

Psoriatic arthropathy (PA) is a chronic rheumatic inflammatory disease (1) with immunological determinism, causing a combination of two types of damage: articular – arthritis (2) and cutaneous – vulgar psoriasis (3); the articular damage is of polyarticular type; immunological tests (rheumatoid factor, anti-cyclic citrullinated peptide antibodies - anti-CCP) are usually negative. Prevalence of the disease ranges between 0.1 and 1%. It occurs in about one third of patients affected by cutaneous
psoriasis and is equally distributed between sexes. PA is known to have an erosive and destructive potential in approximately 40-60% of patients (4) and a progressive development even from the first year of diagnosis. Psoriatic arthropathy may cause chronic joint damage, severe functional impairment, leading to significant social and medical costs (5).

The analysis of family distribution (10-20%) reveals the role of heredity, but viral, bacillary, immunological, psychogenic and metabolic factors are also involved. Of the numerous suggested hypotheses, the only universally accepted are the hereditary and metabolic ones (5, 6).

Monoarticular or polyarticular manifestations of inflammatory nature commonly affect the distal interphalangeal joints of the fingers or toes: their integuments become shiny, look like sausage fingers and the nails show typical lesions, such as penetrated grooved nails and even onycholysis. Misalignment and deformity occur late and cause major functional impairment. This broad clinical spectrum also involves many tissues other than skin and nails, including the synovial membrane, cartilage, bone, entheses, and tendon. The symptoms of the disease can range from minimal enthesal pain to arthritis mutilans, the most destructive form of arthritis.

Besides these peripheral asymmetric articular manifestations affecting both the large joints of the limbs and the medium and small ones, the axial segment may also be affected. There may be also unilateral or asymmetric sacroilitis or segmental spinal cervical locations and often cervical locations, where ossifications typical to sero-negative arthritis coexist with treatment-resistant skin and scalp lesions with poor prognosis. The concomitant involvement of large peripheral joints occurs as asymmetric subacute arthritis, evolving to complete rigidity and stiffness.

Laboratory investigations indicate the absence of rheumatoid factor (which is also a diagnostic criteria), increased ESR and CRP. Major increases of these values characterize the polyarticular forms resembling rheumatoid arthritis, and are associated with the progression of joint disease, early mortality, and erosive and destructive potential (protein blood count, anemia, leukocytosis).

The radiologic exam shows signs of erosive arthritis located at a distal interphalangeal level, with simultaneous presence of proliferation phenomena, bone lysis and ankylosis, unilateral or asymmetric sacroilitis and vertebral parasyndesmophyte that affect mostly the upper cervical spine (C2-C3) (6).

Due to its clinical heterogeneity, psoriatic arthritis is sometimes difficult to diagnose, especially in the absence of cutaneous lesions. The clinical course of psoriatic arthropathy may be silent and benign, but many patients may have a severe and sometimes debilitating course that requires early diagnosis.

Our study aims to prove the clinical and biological effectiveness of the therapy with biotechnology-derived drugs that act as cytokine antagonists (TNFα) and are used as backup therapy, but at the same time it brings new hope for broadening and improving therapy in PA.

MATERIAL AND METHODS

The study included total of 21 patients (13 men, 8 women) admitted in the period 2011-2012 to the I-st Rheumatology Clinic of Rehabilitation Hospital Iasi. The patients were aged over 20 years and had one or
more peripheral arthritis conditions, skin and nail lesions.

The following parameters were analyzed: demographic characteristics (the mean age of the study group patients was 47.0 ± 2.1 years and the mean duration of articular symptoms 4.2 ± 1.3 years), personal and family medical history, case distribution after the onset of disease, clinical manifestations (axial syndrome, peripheral articular syndrome, enthesopathic syndrome, and extra-articular syndrome), patient self-assessment (duration of morning stiffness, pain intensity, and global assessment of disease activity), evaluation parameters (joint pain, joint swelling, dactyly, enthesis index, thoracic expansion, Schober’s test, finger-ground distance and overall assessment of PA activity), evaluation of the psoriatic skin lesions performed by a dermatologist, laboratory investigations (hand radiographs, pelvis radiograph for imaging sacroiliac joints, radiograph of cervical dorsal lumbar spine, for assessing the stage of disease), nonspecific inflammation tests (ESR by Westergren method, CRP dosage by nephelometry), assessment of rheumatoid factor by ELISA and latex assays, analysis of HLA histocompatibility system, immunological abnormalities, antibody analysis, the type of treatment, early clinical and biological evaluation after 6 weeks.

RESULTS AND DISCUSSION

In our study group, the onset was manifested by psoriatic lesions (72% of cases). The rest of the cases subsequently developed arthritis. Nail damage was present in 50% of cases, as onycholysis, the “oil stain” appearance of the proximity of the nail bed, hyperkeratosis.

Men were mostly affected: 13 men (61.90%) to 8 women (38.09%). The mean age of patients included in the study group was 47.0 ± 2.1 years and the mean duration of articular symptoms was 4.2 ± 1.3 years (fig.1).

There is a familial aggregation of the disease, as it is more common in patients whose blood relatives have psoriatic arthritis.

The onset was more often in the fourth decade of life, and the peak incidence was in the fifth decade of life, mainly in women.

The conclusion was that the onset of psoriasis can occur at any age, but it was more common in the third and fourth decade of life (fig. 2).
in rural patients (63%) as compared to urban patients (37%), which can be explained by different education levels and insufficient prevention campaigns (fig. 3).

The onset of the disease may include both characteristic articular manifestations and integumentary lesions. The study group mainly presented psoriatic lesions (62%) and arthritis has occurred subsequently. In 7% of PA patients, the onset of psoriatic lesions was simultaneous with that of arthritis (fig. 4).

HLA B27 antigen was present in a significant proportion of PA patients (45%). HLA B38 and B39 antigens are found in patients with peripheral arthritis, and HLA DR 4 antigen (6%) causes the association of psoriasis with arthritis.

Significant increases in ESR levels are correlated with the progression of articular disease and early mortality. PA caused in two thirds of cases a severe biological inflammatory syndrome (CRP), and in one third of cases the values were moderate and correlated with the erosive and destructive potential, but not with the disease activity.

In our study, PA was the most common joint disorder and manifested as an acute or subacute oligoarthritis affecting large or small joints (hand joints), with inflammatory phenomena in the characteristic subacute forms that are painful and integuments are under tension.

Except for the spine, the inflammatory process affected peripheral joints, periostium, along the tendons and on the bone insertion of tendons.

Distal interphalangeal joints were mostly damaged. Ankle and knee joints showed asymmetric changes and DIP and PIP joint damage was associated with enthesitis that lead to dactylitis.

The study group had classic lesions of psoriasis vulgaris on the scalp (10%), upper limbs (35%), lower limbs (25%), and trunk (30%). Typical lesions of psoriasis include erythematous plaques that are well-defined, round-to-oval, covered with multi-layered silvery white lamellar scales, that are easy to remove and in a healing process, or covered with thick scales and peeling skin on the damaged areas. Skin erythema and infiltration may also be present (fig. 6).
Nail changes were present in 95% of the study patients. These included transverse ridges, punctiform depressions, onycholysis, and nail calcification. The patients with no nail changes were younger or the disease was in an early stage.

Sacroiliitis with axial development occurred mainly in men with HLA 27 antigen (65% of cases), suggesting that the disease has developed for several years.

All patients had morning joint stiffness of variable intensity and duration.

**Normal therapeutic course**

The effectiveness and safety of infliximab therapy was studied in 21 patients with active polyarticular PA (≥ 5 swollen joints, ≥ 5 tender joints), using 5mg/kg every 8 weeks. The response to treatment was assessed by measuring changes in the
number of swollen and tender joints, acute phase reactants, the overall assessment of health status by patient and doctor.

The clinical criteria were assessed based on parameters that define the development of the disease (swollen and tender joints, morning stiffness, etc.). An improvement of 75% to 90% was found during treatment.

When a decrease in inflammatory phenomena was achieved, the therapeutic process was supplemented with the interest in the psychological state of the patient, who should be encouraged to reestablish social contacts and to show interest in various activities.

MTX (methotrexate) in association with other drugs is superior to MTX alone. The compliance to polytherapy was optimal, with limited adverse effects, and the functional status of the patients was significantly improved.

Based on the results, it is recommended that infliximab to be administered in patients who meet CASPAR diagnostic criteria (Classification Criteria for Psoriatic Arthritis, developed by W Taylor et al. in 2006), have the disease in aggressive stage, and do not respond to treatment with methotrexate (MTX) or other disease-modifying antirheumatic drugs (DMARDs) administered for 12 weeks.

**TABLE I**

Effectiveness of therapy with Infliximab + MTX according to ACR criteria

<table>
<thead>
<tr>
<th>Drug</th>
<th>ACR 20</th>
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<tr>
<td>MTX + Infliximab 3mg /kg</td>
<td>49%</td>
</tr>
<tr>
<td>MTX +Infliximab 5mg /kg</td>
<td>53%</td>
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**CONCLUSIONS**

Infliximab is effective in counteracting the potentially harmful elements. It reduces the number of tender and swollen joints, improves the functional capacity and the quality of life, and slows down the radiologic progression. Infliximab is well tolerated, effective, with an optimum safety profile during short-term administration in patients with active forms of psoriatic arthropathy.

The clinical assessment showed that the risk of premature death was closely related to the activity and severity of arthritis and to the presence of radiological erosions and to high levels of ESR.

**REFERENCES**

POSTOPERATIVE INFECTIONS IN PATIENTS WITH TOTAL HIP OR KNEE ARTHROPLASTY - INVOLVEMENT OF ALLOGENEIC BLOOD TRANSFUSIONS

Up to 70% of patients who undergo total hip or total knee arthroplasty receive blood transfusions. A recent study conducted by Friedman and co. investigated whether allogeneic blood transfusion increases the risk of postoperative infection compared with autologous blood transfusion or no transfusion. Using data from more than 12,000 patients assessed in the Phase-III RECORD (Regulation of Coagulation in Orthopedic Surgery to Prevent Deep Venous Thrombosis and Pulmonary Embolism) studies, the authors stratified patients into three groups according to the type of blood transfusion that they received: no transfusion (n = 6313), autologous blood transfusion (n = 1902), and allogeneic blood transfusion with or without autologous blood transfusion (n = 3962). The types of postoperative infection were recorded and included lower or upper respiratory tract and lung infection, bone and joint infection, wound inflammation or infection, urinary tract infection, and other infections. Based on the results of the study the same authors concluded that the rates of any infection, lower or upper respiratory tract and lung infection, and wound inflammation or infection were significantly increased after elective total hip or total knee arthroplasty in patients receiving allogeneic blood transfusion compared with those receiving autologous blood transfusion or no blood transfusion. (Friedman R, Homering M, Holberg G, Berkowitz SD. Allogeneic blood transfusions and postoperative infections after total hip or knee arthroplasty. J Bone Joint Surg Am. 2014 Feb 19;96(4):272-8. doi: 10.2106/JBJS.L.01268. PMID: 24553882).