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Coincidence of rheumatoid arthritis and acute intermittent porphyria – not an ordinary problem. A case report

Reumatoidalne zapalenie stawów u chorego z ostrą przerywaną porfirią – rzadko spotykany problem kliniczny. Opis przypadku

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Słowa kluczowe: ostra przerywana porfiria, reumatoidalne zapalenie stawów.

Summary

The present work has been undertaken in order to describe the case of an acute intermittent porphyria (AIP) patient with coexisting rheumatoid arthritis (RA). Due to the high activity of her RA the problem of proper treatment was considered. Based on the available literature it was decided to introduce methotrexate at a dose of 15 mg/week. Three months later the patient improved. She reached an ACR 50 score. Moreover, no symptoms of her AIP have been observed.

Streszczenie

W pracy przedstawiono przypadek pacjentki z ostrą przerywaną porfirią (AIP) i reumatoidalnym zapaleniem stawów (RZS). Omówiono trudności podjęcia leczenia lekami modyfikującymi przebieg RZS u osoby z AIP. W opisanej sytuacji zadecydowano o podaniu metotreksatu, uzyskując istotną poprawę kliniczną i laboratoryjną. Nie obserwowano napadu AIP w przebiegu zastosowanej terapii.

Background

Porphyries are a group of hereditary diseases caused by defects in the biosynthesis of heme. Their most common type is acute intermittent porphyria (AIP), an autosomal dominant disorder. In AIP porphobilinogen deaminase activity is reduced, resulting in the pathological accumulation of heme precursors responsible for the symptoms of acute AIP attack. Biochemically AIP is characterized by the increased excretion of haemoglobin precursors delta-aminolevulinic acid (ALA) and porphobilinogen (PBG) and their presence in urine [1]. Acute AIP attacks are precipitated by several metabolic, hormonal and environmental factors, such as drugs, alcohol and stress. The clinical manifestation of AIP constitutes gastrointestinal and neuropathic symptoms [2]. Most common are: abdominal pain, constipation, urinary retention, paraesthesia, paralysis and epilepsy. Some patients suffer from hypertension and arrhythmia. Respiratory paralysis in the course of an AIP attack can lead to the patient's death. Between AIP episodes patients do not demonstrate any clinical symptoms. Only 20-30% of AIP gene carriers ever become symptomatic [3]. AIP diagnosis has a significant influence on the treatment of any other coexistent conditions, altering the clinical approach to patients' problems [4, 5].

The objective of the present study was to describe the case of an AIP carrier patient (showing reduced

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porphobilinogen deaminase activity and with a family history of AIP) coinciding with rheumatoid arthritis (RA).

Case report

The 56-year-old female AIP gene carrier patient was diagnosed with RA two years prior to the present study. Her sister also suffers from AIP with frequent exacerbation of the disease. Initially the patient was given glucocorticosteroids and non-steroid anti--inflammatory drug treatment. Disease-modifying-anti-rheumatic drugs (DMARDs) were not used because the doctor managing the patient was not sure about the safety of that kind of treatment.

The patient was admitted to our Department with symptoms of active inflammatory process: elevated ESR 37 mm/1 hour, CRP 30 mg/l (n<10 mg/l), and swelling of the minor hand joints and ankle and morning stiffness lasting approximately one hour. Laboratory tests were carried out revealing presence of rheumatoid factor in the blood, as well as anaemia with normal volume of erythrocytes and haemoglobin 10.9 g/dl. Radiological examination revealed the features of RA in the patient's hands and feet (II/III Larsen Scale).

Initially the patient was not administered DMARDs such as methotrexate, cyclosporine, sulfasalazine. Doctors in charge of therapy were afraid of attacks of AIP and their anti-inflammatory treatment was insufficient.

The urine tests conducted within 24 hours of the patient's admission showed increased excretion of ALA, PBG and other haemoglobin precursors (HMBS) such as porphyrin 7-COOH, 6-COOH and 5-COOH.

We decided to administer methotrexate at a dose of 15 mg per week, while simultaneously reducing the prednisone use. After two weeks of treatment the levels of ALA and PBG were assessed with 24-hour urine tests, revealing no significant changes. The patient was discharged from the hospital. After three months of therapy the patient returned to the Department showing no morning stiffness, and her RA activity reached ACR 50.

Discussion

Long-term RA therapy – in particular with immunomodulating and immunosuppressive drugs – is very problematic for AIP patients. The majority of drugs used in such therapy can cause severe AIP attacks, even if the patient has not experienced an AIP attack previously. Sulfasalazine definitely should not be used in RA therapy of AIP patients. Azathioprine and cyclophosphamide can be used only if other treatment is not available. However, MTX, leflunomid, etanercept, anakinra, and rituximab seem to be safe for AIP patients [6].

In the presented case MTX was used with good effect for her RA symptoms, while causing no significant changes in ALA and PBG secretion. The use of MTX has not provoked an AIP attack in this case.

Conclusions

This is quite a rare problem of proper RA treatment with DMARDs in AIP patients. Obviously when looking for safe drugs in AIP, MTX should be considered as a drug of first choice in RA treatment. It can be particularly useful in patients with acute liver porphyries such as AIP. Probably the success in the treatment of the patient was related to the fact that she was in the menopause period and this significantly decreases the chance of AIP attacks [7].

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