

IATROGENIC DENTAL MANIFESTATIONS IN THE TREATMENT WITH METHOTREXATE

STOMATOLOŠKI PROBLEMI IZAZVANI TRETMANOM METHOTREXATOM

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Abstract: *The Methotrexate used in the treatment of some general disorders, has numerous iatrogenic side effects, including at the level of the dental structures. It was noticed that the female patients with rheumatoid poly-arthritis, who have been treated with Methotrexate, after a period since Methotrexate was administered, there began to appear new carious processes, located at the level of the tooth neck. We present three cases of female patients with rheumatoid poly-arthritis, treated for 6 years with Methotrexate, who showed, besides general iatrogenic manifestations to Methotrexate, also dental iatrogenic manifestations with numerous cavities located at the tooth neck.*

Key words: *Methotrexate, iatrogenic lesions, caries, rheumatoid periodontitis*

Sažetak: *Methotrexate se koristi u liječenju nekih općih poremećaja, a ima brojne nuspojave uključujući i probleme sa zubima. Zamijećeno je da kod pacijentica s reumatoidnim poliartritisom liječenih Methotrexateom nakon određenog vremena dolazi do kvarenja vrata zuba. U radu su obrađene tri pacijentice s reumatoidnim poliartritisom liječene Methotrexateom šest godina. Uz opće poremećaje vezane uz Methotrexate kod njih su se pojavili i brojni karijesi na vratu zubi.*

Ključne riječi: *Methotrexate, iatrogena lezija, karijes, reumatoidni periodontitis*



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1. Introduction

Iatrogenic manifestation to drugs is a new, representative chapter of general medicine. Iatrogenic dental manifestations to Methotrexate are less studied in the specialized literature.

Rheumatoid poly-arthritis is a serious collagen disease that often affects young women. The disease occurs at the level of small joints of the limbs more than the knees and the coccyx-femoral joint. Rheumatoid poly-arthritis is a chronic inflammation of the synovial joint with proliferating, deforming character, which evolves in acute episodes [1][2].

The treatment consists of anti-inflammatory medication, corticosteroids and immunosuppressants, Methotrexate being the main immunosuppressant indicated in severe forms of poly-arthritis (marked inflammatory clinical and serological phenomena). Methotrexate is analog to folic acid and blocks enzymatically the activity of T and B lymphocytes. It produces positive effects alone or in association with corticosteroids, but is accompanied by multiple side effects (digestive, neurological, hematological, renal, cutaneous ones). The Methotrexate dose can range from 7.5 mg/week (minimum dose) to 17.5mg/week (maximum dose). The choice of the treatment protocol was made depending on the disease evolution and on the severity of symptomatology [3].

Iatrogenic symptoms are registered later, after a longer using period, through haematological, hepatotoxic, proteinuric, fibro-pulmonary, renal, cutaneous and dental manifestations [4].

2. Scope

The identification of iatrogenic effects of Methotrexate with localization at the stomatognathic system with the presentation of the association between long term Methotrexate treatment and the presence of dental lesions at the cervical level with very fast evolution.

3. Material and method

The present study refers to 15 serum-positive patients suffering from rheumatoid poly-arthritis, observed in the clinic of Prof. Dr. V. Ciobanu (for 6 years) treated with Methotrexate and anti-inflammatory drugs (the cortisone-therapy was excluded due to the presence of duodenal ulcer and diabetes). The patients (15 women) aged 28 - 56 had presented rheumatoid poly-arthritis for 5-22 years with the following manifestations: arthropathies (upper limbs, knees, hip), with deteriorated serologic inflammatory phenomena (positive VSH, PCR, rheumatoid factors, gamma globulin). The patients were treated with Methotrexate for 6 years, 3-5 months per year.

At the beginning of the treatment the patients didn't show tooth neck caries. These patients' carious lesions consisted in a galloping evolution of simple caries, undermining the resistance of the clinical crown and affecting at the same time the periodontium and the teeth vitality.

They were administered an anti-inflammatory treatment that included pyroxicam, brufen, non-aggressive drugs upon the patients. Thus, the presence of the cervix caries and especially the periodontal complications were attributed to the treatment with Methotrexate [5][6].

4. Results

Three cases have been selected for a succinct presentation, underlining and presenting the characteristics of iatrogenic effects resulted as a consequence of the treatment with Methotrexate.

a. A.B., patient aged 42, with serum-positive rheumatoid poly-arthritis of hand and knee joints since the age of 18. Treatment with Methotrexate was administered over a period of 5 years, 6 months a year.

Clinical dental examination, subjective, the patient asked for a consultation for the following symptoms: dental and gum pain aroused by tooth-brushing and mastication. In the front area, the interdental papillae at the level of the remaining teeth were hyperplastic [Figure 1 a, b]. The clinical examination evidenced, at the neck area, for all remaining teeth pigmented carious lesions, some of them located under the free marginal gingiva.

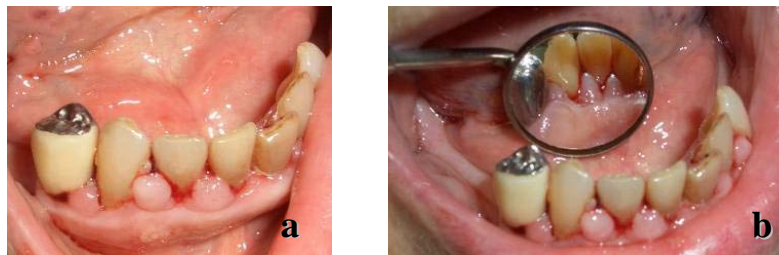


Figure 1. a, b Chronical hyperplasic marginal periodontitis

b. C.R., aged 50, with serum-positive rheumatoid poly-arthritis since the age of 23, manifested by polyarthralgies and deformations of the upper and inferior limbs joints, also showed alterations of the biological constants. The treatment with Methotrexate was administrated over a period of 4 years (5 months a year).

The patient had asked for a consultation at the dentist's office a year before in order to treat the lesions that had appeared in the frontal teeth cervix area. The treatment consisted of obturation with aesthetic material (composite) [Figure 2 a, b].

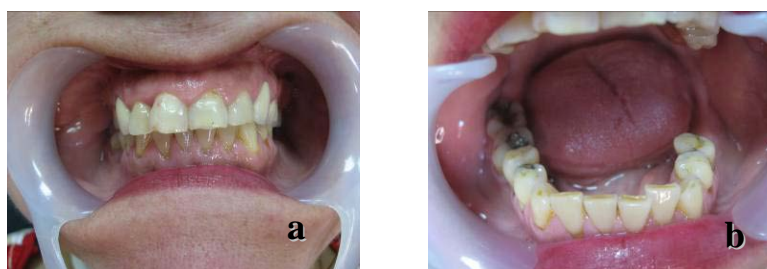


Figure 2 a, b Cervical carious lesions

After a year she came back for a check-up, because there appeared new lesions at the obturations brim. After the subjective and objective examination was performed, the treatment plan was established, which consisted in covering the teeth with fixed prosthetics [Figure 3 a, b].



Figure 3. a, b Fixed prosthetic restorations

After 4 years, coming back for a check-up, her prosthetics was removable. When ablating the prosthetics, the massive crown destruction of the of the bridge pontic could be seen, compromising the radicular remains. The irretrievable radicular remains had to be extracted [Figure 4 a, b].

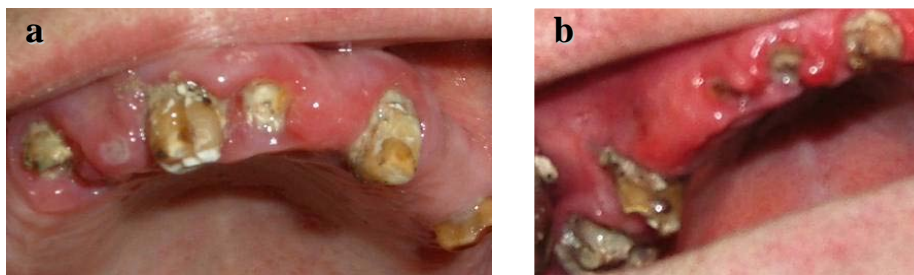


Figure 4 a, b Massive crown destructions

c. M.A., aged 55, the patient presents serum-positive rheumatoid poly-arthritis, that appeared at the age of 20. Clinically, the patient presented poly deformations of the fingers. Biologically there are present major modifications. The patient was treated for 5 years with Methotrexate, 7 months a year. At the endo-oral clinical examination there were found multiple cervical carious lesions and a profound chronic parodontopathy, localized at the level of the remained teeth [Figure 5].



Figure 5 Cervical carious lesions; profound chronic marginal parodontopathy

7. Discussions

Generally speaking, Methotrexate has brought improvement to the patients' evolution (the results refer to a study realized on 15 patients, who were treated during an interval of 5-7 years). Multiple cervical carious lesions have been found, being associated to the presence of rheumatoid poly-arthritis and the patients were administered Methotrexate for minimum 4-6 months for 5-6 years. The neck caries and gingivitis, have been evidenced rarely in the literature compared to the haematologic, hepato-toxic, proteinuric iatrogenic effects, etc.

8. Conclusions

The indication of using common anti-inflammatory substances has not participated to the genesis of the caries, as it results from the presented study in the specialty literature (the caries can appear at the female patients treated for 5-7 years only with non-steroidal anti-inflammatory).

It has been observed that the long term treatment with Methotrexate was associated with the appearance and galloping evolution of carious lesions with cervical localization.

All observations as well as the results have been obtained as result of patients' coming to the dentists, claiming pain and asking for stomatognathic system function restoration.

9. References

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Photo 178. Industry zone in Pozega / Industrijska zona u Požegi