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# LOSS OF TASTE INDUCED BY METHOTREXATE: A CASE REPORT

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## ABSTRACT

**The author presents a case of a loss of taste in two patients induced by methotrexate during the treatment of psoriatic erythrodermia. The loss of taste was confirmed by laboratory examinations in the Department of Physiology, Prof. P. Stoyanov, Varna University of Medicine. It is concluded that the loss of taste may be an adverse effect of methotrexate with temporary duration.**

**Key words**: methotrexate, taste loss, adverse reaction, psoriatic erythrodermia

## INTRODUCTION

Methotrexate is an antimitotic drug that acts by competition with dihydrofolate reductase in the DNA synthesis (2). It exerts anti-inflammatory and anti-arthritic effects by decreasing the proliferation of lymphocytes and changing the polymorphonuclear chemotaxis (5). It acts as an anti-cancer drug in higher doses and as an anti-rheumatoid agent in lower doses (3). One study showed that methotrexate damages the epidermis by decreasing the proliferation of keratinocytes (4).

Adverse reactions associated with methotrexate treatment were reported in numerous studies Table.1 (6). The adverse effects of methotrexate are commonly seen during anti-cancer chemotherapies (6). However, we did not find any studies about taste loss induced by methotrexate during the treatment of psoriatic erythrodermia.

## MATERIAL AND METHODS CASE REPORT

Two male patients aged 82 and 56 years were diagnosed with psoriatic erythrodermia. They were in good physical condition. They complained of itching on whole body. Dermatologic examination showed diffusely spread erythema and desquamation. We treated both of them with methotrexate orally (25mg weekly) and locally with emollients in the Clinic of Dermatology and Venereology. After two months, dermatological status became normal, but they complained of taste loss and, subsequently, of low appetite and weight loss. Methotrexate was suspected, and this therapy was stopped.

We proved that these complaints were not subjective by laboratory examinations. We investigated the limen of tasty sensitivity to basic types of taste (1). We established a lower taste sensitivity for salt and sour. The sensitivity to sweet and bitter was not changed.

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## RESULTS AND DISCUSSION

The most frequent reactions to methotrexate treatment are ulcerations of the oral mucosa, burning sensation of the skin, photosensitivity, acral erythema, erythema multiforme, urticaria, and vasculitis (6). Frequent risk fac-

*Table 1. Methotrexate oral adverse effects*

| More frequent | Less frequent | Rare or very rare |
|---|---|---|
| appetite loss | acne | agranulocytosis |
| azotemia | arachnoiditis, chemical | alveolitis |
| bacterial infection | boils | eosinophilia |
| cutaneous vasculitis | cerebrospinal fluid press.incr | hepatic failure |
| gastroenteritis | cirrhosis | proteinuria |
| gastrointestinal ulceration | demyelination | |
| gi hemorrhage | hair loss | |
| gingivostomatitis | hepatic necrosis | |
| hyperuricemia | hepatotoxicity | |
| intestinal perforation | itching | |
| nausea | leukoencephalopathy | |
| septicemia | pallor | |
| severe nephropathy | periportal fibrosis | |
| skin photosensitivity | pneumonitis | |
| thrombocytopenia | pulmonary fibrosis | |
| vomiting | skin rash | |

tors for toxicity were renal failure, infection, and old age. The loss of taste in our case is a reaction to methotrexate treatment because the patients do not take any other medications. Although one of them is not young, they were both in good physical condition and no other risk factors were noted. We proved that the complaints were not subjective. Drug-induced taste loss is an embarrassing adverse effect but it ceases rapidly after removal of the responsible drug. In this case, taste loss restores after cessation of methotrexate therapy.

In summary, there are many toxic and adverse effects of methotrexate. Some of them may be eliminated with additional treatment; other ones should be prevented by premedication. Most of them are recurrent. To our knowledge, this is the first case where a taste loss was induced by methotrexate and was described as possible adverse effect of this drug.

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