Research Week 2020

Low-dose methotrexate safety in dermatologic disease: incidence and timing of laboratory abnormalities during the first year of therapy

Teri Greiling, M.D., Ph.D., T. Hajar, EJ Latour, D Haynes, C Topham, E Hill, J Strunck, EL Simpson, TM Greiling

OHSU

Keywords

methotrexate, lab monitoring, dermatology

Abstract

Introduction

Methotrexate is a commonly used medication for inflammatory and autoimmune disorders. Dermatologic literature recommends frequent laboratory monitoring due to the potential of serious side effects although data supporting this recommendation is lacking. In this study, we aimed to identify the incidence and timing of laboratory abnormalities in a cohort of patients prescribed low-dose methotrexate during their first year of therapy.

Methods

Utilizing a web-based discovery tool available through Oregon Clinical and Translational Research Initiative (OCTRI), we identified patients who were seen at OHSU between May 2004 and October 2018 who were prescribed low-dose methotrexate (defined as 5-25 mg per week). Electronic health records were reviewed, and baseline and follow-up laboratory data over the first year of therapy were recorded. Changes in baseline laboratory values were identified and categorized using The Common Terminology Criteria for Adverse Events version 5.0 grading system.

Results

1376 patients who initiated low-dose methotrexate between 2004-2018 met criteria for inclusion in our study. Low-dose methotrexate-related grade 2-4 lab abnormalities developed in 2.3% of patients with normal baseline lab values and 10.4% of patients with abnormal baseline lab values (odds ratio = 5.0, 95% CI: 2.9 to 8.4; P<0.001, Fisher's exact test); 0.8% of patients discontinued therapy secondary to these laboratory abnormalities. There were no cases of methotrexate-induced serious laboratory abnormalities in the first month of therapy. Serious lab value changes were equally probable throughout the first year of therapy.

Conclusion

Methotrexate-related lab abnormalities are uncommon in patients without baseline lab abnormalities and do not occur more frequently in the first month of therapy. These findings suggest that monitoring frequency can be adjusted taking into account baseline risk factors. We recommend that monitoring can be performed at regular intervals over the first year of therapy in patients without a history of baseline lab abnormalities.