Methotrexate dosing in renal impairment – more awareness and action needed

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INTRODUCTION

• Methotrexate is widely prescribed in rheumatology and dermatology, up to a maximum of 25mg weekly.
• When renal function is reduced, methotrexate accumulation may lead to toxicity such as excessive bone marrow suppression, acute hepatic toxicity, and acute interstitial pneumonitis.
• British Society of Rheumatology guidance¹ advises a 50% decrease in usual weekly dose (allowing a maximum of 12.5mg weekly) when eGFR is less than 60 mL/min/1.73 m².
• We set out to determine how many patients in primary care with impaired renal function were prescribed methotrexate at a dose exceeding 12.5mg per week.

METHOD

• EclipseLive was used to capture anonymous data for patients prescribed methotrexate across 49 of 60 practices in one CCG for three month period to mid-May 2018

RESULTS

2110 patients on methotrexate

243 with a recent eGFR < 60 mL/min/1.73 m²
(86% on tablets and 14% on subcutaneous injection)

No clear dose instruction captured for 29 of these patients

121/214 patients (mean age 75, 62% female) on >12.5mg per week (mean 18mg, range 15-25mg). Three of these had eGFR <30 mL/min/1.73 m² (methotrexate is contraindicated according to BSR).

CONCLUSIONS

• In this primary care database from one CCG, there were approximately 6% (121/2,110) patients on weekly methotrexate who were prescribed a dose too high for their eGFR value.
• Limitations - did not check for comorbidity or concomitant nephrotoxic agents (e.g NSAIDs) which may have increased the potential toxicity risk, and did not look at trends in eGFR for individual patients.
• We have communicated our results to primary care and described the necessary action to be taken regarding eGFR monitoring and dosing. We will alter our local shared care guideline to emphasise caution on dosing in renal impairment.
• We will repeat data extraction and analysis in 6 months to ascertain if the situation has improved.

REFERENCES