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THE VALUE OF TPMT MEASUREMENT IN THE ROUTINE CLINICAL MANAGEMENT OF PATIENTS WITH IBD

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Introduction The measurement of thiopurine methyl transferase (TPMT) can be used to identify patients at risk of marrow suppression from azathioprine. Across the medical specialities, there is no clear consensus or guidelines on the place of routine measurement of TPMT prior to commencing azathioprine. However, this is now widely accepted as standard practice among gastroenterologists in the UK.

In this study the authors aimed to assess the value of TPMT level measurement in routine clinical practice in IBD patients commencing azathioprine.

Methods A retrospective study of all patients with IBD commencing azathioprine in our hospital between 2007 and 2009. The laboratory ranges used in our lab classify patients as TPMT deficient at values less than 10, intermediate 10–26 and normal 26–50.

Data was collected on disease type, demographics, TPMT levels, marrow suppression and other adverse effects, including hepatotoxicity, pancreatitis and GI intolerance.

Results 139 patients were identified; 69 with Crohn's disease, 62 with ulcerative colitis and 8 with indeterminate colitis. Basic demographic analysis revealed a mean age of 40 years (range 18–84). Patients were followed up for a median 14 weeks, (range 3–48 weeks).

Of these patients, 116 (83%) had normal TPMT levels and 23 (17%) intermediate levels.

In the group of 23 with intermediate TPMT levels, 15 patients (65%) had to stop azathioprine due to adverse effects. 3 (13%) developed marrow suppression, including 1 who developed neutropenic sepsis, 7 (30%) developed hepatotoxicity or pancreatitis and 5 others (22%) stopped azathioprine due to other GI intolerance.

In the group of 116 patients with normal TPMT levels, 53 (46%) developed adverse effects. Of these, 9 patients had bone marrow suppression, 2 continued the drug but with dose reduction and 7 discontinued azathioprine. This equates to 8% of all patients with normal TPMT levels experiencing bone marrow suppression. 16 patients (14%) developed hepatotoxicity or pancreatitis and 27 (23%) other GI intolerance. One patient stopped azathioprine during an acute illness and never restarted it.

Conclusion Our patients with intermediate levels of TPMT were at increased risk of marrow suppression (13% vs 8%) compared to those with normal TPMT levels. Also a greater proportion of this group stopped azathioprine due to other side effects (52% vs 37%).

However, patients with normal TPMT levels were also clearly at risk of side effects, and it does not appear that knowledge of TPMT status really affected an individual patient's clinical outcome.

It is not at all certain that measurement of TPMT really adds anything to routine vigilant clinical and laboratory monitoring in this group of patients.

Competing interests None.

Keywords TPMT.