AN AUDIT ON THE MONITORING OF MOOD STABILISERS

Azhar Ali, MBBS; Nudrat S Ali, MBBS;
Frank Ogbomor, MBBS; Deepak Garg, MRCPsych

INTRODUCTION

Mood stabilisers are commonly used for the treatment of affective illnesses, particularly bipolar affective disorder. Drugs commonly classed as mood stabilisers include lithium carbonate,[1,2] sodium valproate,[3,4] semi-sodium valproate, lamotrigine, carbamazepine and gabapentin. Sometimes, mood stabilisers are used in combination, eg a combination of lithium and sodium valproate.

Most of these medications have side effects and can be toxic in above therapeutic doses. Most of these side effects can be easily monitored with biochemical investigations, ECG and measurement of physical health parameters such as weight, blood pressure, etc.[5]

Various national guidelines (eg, the National Institute for Clinical Excellence,[6] the British Association of Psychopharmacology,[7] and the Maudsley Prescribing Guidelines[8]) have recommended a list of parameters to be monitored and a monitoring schedule for patients on mood stabilisers. These guidelines have been adopted for local needs by our pharmacist to devise a local monitoring guideline.

The responsibility for monitoring is shared by mental health services and primary care under shared-care arrangements. Usually, the mental health service is responsible for such monitoring for inpatients and primary care for patients in the community. To monitor our practice in this area of clinical care we have undertaken a first phase of this audit for patients in the South Lakes region of Cumbria.

AIM

The aim of this audit was to assess our practice of monitoring of 'physical health and biochemical parameter monitoring of patients on mood stabilisers' against the recommended guidelines of our pharmacist.

METHODOLOGY

A retrospective study of 20 patients was carried out. Data were collected from casenotes and multidisciplinary notes, and laboratory results were retrieved from the *INDIGO* reporting system.

Audit Standards

1. All patients on mood stabilisers should have baseline investigations and assessment of physical parameters
2. All patients on lithium should have baseline and regular ECG monitoring

Patients included were both male and female, from age group 18 to 65, and comprising inpatients, outpatients and patients treated by Community Mental Health Teams.

RESULTS

The mean age of the sample was 48.5 years. The sample included eight male and 12 female patients. Three quarters of the patients were smokers and just over half (55%) were alcoholics. As expected, the most common diagnosis was bipolar affective disorder. The diagnostic breakdown of the sample is given in figure 1.

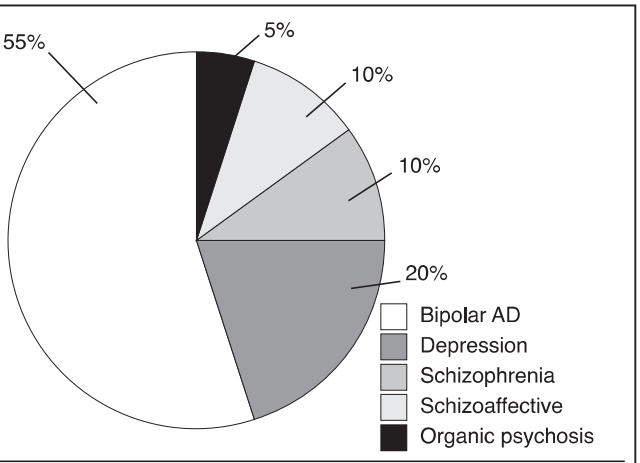

Figure 1 Diagnostic breakdown

More than half of the patients (60%) were receiving treatment from the Community Mental Health Team. Lithium was the mood stabiliser of choice for 60% of patients (see figure 2).

The majority of patients were on mood stabilisers for less than three years, with 30% of these started on the mood stabiliser within the last year.

Weight and body mass index (BMI)
Only half of the patients had their weight checked at baseline. The monitoring of weight was even poorer at six-month (12%) and one-year (22%) intervals. Also, the BMI of the majority of the patients was not calculated at the same time intervals.

Biochemical investigation
We found good compliance with monitoring of lithium level, glucose full blood count and electrolytes. The liver function tests were not monitored for about 30% of patients at baseline and annually, but at other intervals were monitored adequately. The baseline thyroid function monitoring was

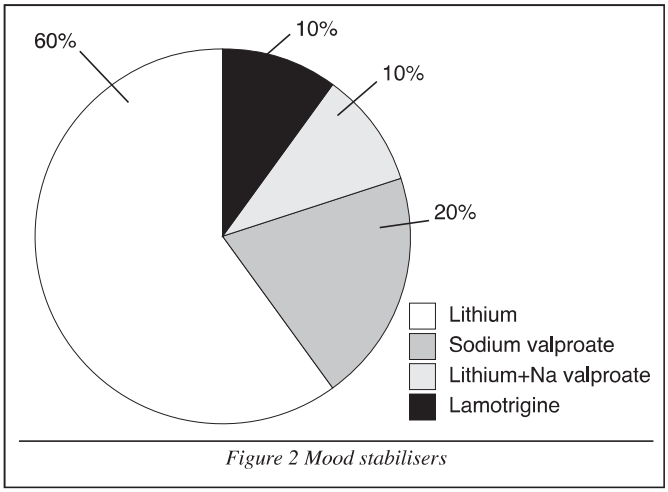

Figure 2 Mood stabilisers

missing for only one patient, but annual monitoring was missing for five patients. Lipid profile was not measured for roughly half of the patients, both at baseline and annually.

The guidelines recommend monitoring serum lithium level at baseline, seven-day, one-month and three-month intervals and every three months thereafter. Our compliance was 100% for baseline, seven-day and one-month follow-up; whereas it varied between 72% and 85% subsequently. The monitoring of electrolytes was even better, being 100% at all times except at the six-month interval (when it was 80%).

ECG

ECG was undertaken initially for all patients, but not followed up at one-year.

DISCUSSION

Mood stabilisers are toxic medications. Lithium in particular has a narrow therapeutic index. Monitoring of physical health parameters, serum levels and other recommended investigations helps to reduce risk of physical harm. Monitoring of drug serum levels is also important in checking compliance.

The findings of this audit are encouraging except for monitoring of physical heath parameters such as weight and BMI, and lipid profile. Most of the monitoring parameters are shared with primary care. Primary care has a robust system of arranging and recording these parameters. It was certainly evident in our audit as most of the follow-up monitoring is done at primary care level and findings indicate that, more or less, they were undertaken quite adequately.

It was highlighted that raising awareness of the importance of monitoring among nursing staff and doctors will further improve monitoring. It was also suggested to link the checking and recording of monitoring to Care Programme Approach (CPA) meetings to further enhance compliance.

REFERENCES

1. Cookson J. Lithium: balancing risk and benefits. Br J Psychiatry 1997;178:120-4

2. Tondo L, Baldessarini RJ, Floris G. Long term clinical effectiveness of lithium maintenance treatment in types I and II bipolar disorder. Br J Psychiatry 2001;178(Suppl 41):184-90

3. Bowden CL, Brugger AM, Swann AC, *et al*. Efficacy of divalproex sodium vs lithium and placebo in the treatment of mania. The Depakote Mania Study Group. JAMA 1994; 271(12):918-24

4. Freeman TW, Clothier JL, Pazzaglia P, Lessem MD, Swann AC. A double-blind comparison of valproate and lithium in the treatment of acute mania. Am J Psychiatry 1992;149(1):108-11

5. Janicak PG. The relevance of clinical pharmacokinetics and therapeutic drug monitoring: anticonvulsant mood stabilizers and antipsychotic. J Clin Psychiatry 1993;54 Suppl:35-41

6. National Institute for Clinical Excellence. Bipolar disorder: the management of bipolar disorder in adults, children and adolescents, in primary and secondary care. National Clinical Practical Guideline Number 38. NICE 2006

7. Goodwin GM, Consensus Group of the British Association for Psychopharmacology. Evidence-based guidelines for treating bipolar disorder: recommendations from the British Association for Psychopharmacology. J Psychopharmacol 2003:17(2);149-79

8. Bipolar disorder. IN Taylor D, Parton C, Kerwin R, Eds. The Maudsley 2005-2006 Prescribing Guidelines. 8th Ed. London: Informa Healthcare; 2005. Pp107-34