Health Monitoring of Patients Prescribed Antipsychotic Medication - Still a Challenge after 40 Years

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AIM

This poster presents the results of an audit of physical health monitoring in patients prescribed antipsychotic medication in three independent sector hospitals and compares the findings with current practice in other settings and with the results of published clinical audits from the 1990s.

BACKGROUND

There have been concerns about the potential health risks associated with antipsychotic medication, particularly when prescribed in high doses since the 1960s (1,2) and good practice guidelines have been available in the UK since 1994 (3). However, several audits carried out in the years following the publication of the guidelines identified poor adherence to their recommendations which were attributed to significant practical challenges faced by clinical services in trying to meet the standards (4,5,6).

The issue was reviewed by the Royal College of Psychiatrists in its College Report: The risks and benefits of high dose antipsychotic medication in 2014 which was revised in January 2023 (7).

METHOD

The records of all patients prescribed antipsychotic medication at three independent mental health hospital were examined in 2021 (n=137) and again in 2023 (n=99) for details of medication doses and physical health monitoring.

RESULTS

It was found that in 2021, recording of information about blood tests and ECGs within the first week of admission was incomplete, with 45% having the results of U&Es and 60% having an ECG. Following the introduction of a dedicated physical health nurse to coordinate health monitoring, improvements were seen in most measures, but many patients repeatedly declined monitoring, especially during the first week of their admission.

At The Dallingtons Hospital (n=28; male open rehabilitation) 26 (93%) patients had ECGs, 2 patients persistently refused – both believing the procedure to be harmful. Attempts were made to repeat the ECG on a three-monthly basis for those prescribed high dose antipsychotics and annually for those on conventional doses. One patient had the dose of his medication reduced after a prolonged QTc was identified. 27 (96%) patients had blood tests to measure Urea and Electrolytes, Full Blood Count and Liver Function Tests. Only one patient refused, because of a needle phobia, but there was documentation in his records to note that the tests were being offered and possible ways of overcoming his needle phobia were discussed with him. Blood tests were repeated every three months for those prescribed high dose antipsychotics and annually for those on conventional doses. The results of blood tests and ECGs were reviewed by a dedicated GP service. 25 (89%) patients had prolactin tests.

At Broomhill Hospital (n=71; male and female, open and locked rehabilitation and male acute) a different audit standard was used, with the aim to complete baseline blood tests and ECGs within seven days of admission. In 33 patients (46%) blood tests were completed within the first week, although only 29% of patients had their prolactin level measured in this time period. An ECG was obtained in 30 patients (42%) within the first week. The primary reason for non-adherence was patient refusal and this was particularly common in patients being admitted to the locked rehabilitation service and acute wards. The majority of patients agreed to blood tests and ECGs over the course of their admission.

The results from St Matthew's Hospital (n=17; male open rehabilitation) were broadly similar.

CONCLUSIONS

Despite considerable efforts being made to improve physical health monitoring, a number of patients declined blood tests and ECGs, despite frequent prompts, reducing overall compliance with the standards. It was also found that retrieving the results of investigations in the internal records system and difficulties accessing NHS IT systems contributed to incomplete adherence and the involvement of high-level IT professionals in finding ways of overcoming barriers to full implementation was an outcome of the audit process.

Some of the problems identified in audits of health monitoring in patients prescribed high dose antipsychotics in the 1990s (4,5,6) such as patient unwillingness continue to present a challenge, however the time and resource difficulties and problems in accessing ECG machines on all units were not felt to be relevant to the current study.

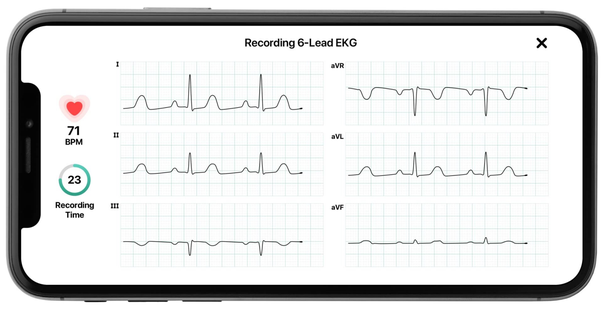
There is still no nationally agreed guideline for the frequency of monitoring of patients prescribed high dose antipsychotics, resulting in a variety of local guidelines being adopted by different trusts, with no clear evidence base. The latest College Report recommends "ECG and electrolyte assessment… every few months, at times of acute illness,

when potentially interacting drugs are introduced or if the patient experiences symptoms that could be due to arrhythmia, for example syncope or fits". However, there have been no studies to assess the cost effectiveness of this.

In a study of patients admitted to public psychiatric hospitals in Switzerland (8), it was found that the numbers of patients needed to screen was 1128 to avoid one case of Torsade de Pointes and 2817 to avoid one death, at a cost of $8644 per incremental Quality Adjusted Life Year (QALY). It is likely that the probability of detecting serious ECG abnormalities would be considerably lower in patients having repeated ECG examinations and the cost per QALY proportionately higher. Further research on the cost effectiveness of health monitoring interventions is needed.

Further debate on how best to manage patients who decline physical health monitoring is also required. We do not agree that sedating patients to carry out an ECG as outlined in (9) is appropriate as this is likely to carry significant health risks.

The possibility of adopting alternative technologies that may be more acceptable to patients needs to be explored. The use of the Kardio Mobile 6L device (illustrated) to measure a six-lead ECG which can calculate the QTc has been approved by the Food and Drug Administration in the USA (10) and the authors are planning to evaluate this device in our patient population.



There has also been evaluation of point-of-care blood testing of blood parameters relevant to psychiatry using finger prick sampling methods, for example clozapine concentration (11), however the measurement of electrolytes by this method remains unreliable, because of skin moisture/sweating, although ear lobe prick testing has been used in ITU populations, but not in patients with mental health problems.

REFERENCES

1. Reinert RE., Hermann DG. (1960) Unexplained death during chlorpromazine therapy. Journal of Nervous and Mental Disorders, 31: 434-442.

2. Hollister, L. E., & Kosek, J. C. (1965). Sudden death during treatment with phenothiazine derivatives. JAMA, 192(12), 1035-1038.

3. Thomson C. (1994) The use of high-dose antipsychotic medication. British Journal of Psychiatry, 164, 448-458.

4. Yorston, G., & Pinney, A. (1997). Use of high dose antipsychotic medication. Psychiatric Bulletin, 21(9), 566-569.

5. Krasucki C., & McFarlane, F. (1996) Electrocardiograms, high-dose antipsychotic treatment and College guidelines. Psychiatric Bulletin, 20, 326-330.

6. Tyson, P. J., Mortimer, A. M., & Wheeler, J. A. (1999). High-dose antipsychotic treatment in clinical practice: a review, audit and survey of consultant psychiatrist opinions. Psychiatric Bulletin, 23(11), 661-664.

7. Royal College of Psychiatrists (2014; January 2023 revision) Report CR190: The risks and benefits of high-dose antipsychotic medication.

8. Poncet, A., Gencer, B., Blondon, M., Gex-Fabry, M., Combescure, C., Shah, D., ... & Girardin, F. R. (2015). Electrocardiographic screening for prolonged QT interval to reduce sudden cardiac death in psychiatric patients: a cost-effectiveness analysis. PLoS One, 10(6), e0127213.

9. Sillifant, K, Muir J, Crabb, M. et al. (1997) Monitoring of patients on high-dose antipsychotic medication. Psychiatric Bulletin, 21. 612-614.

10. Frisch, D. R., Frankel, E. S., Farzad, D. J., Woo, S. H., & Kubey, A. A. (2021). Initial experience in monitoring QT intervals using a six-lead contactless mobile electrocardiogram in an inpatient setting. The Journal of Innovations in Cardiac Rhythm Management, 12(3), 4433.

11. Taylor, D., Atkins, M., Harland, R., Baburina, I., MacCabe, J. H., Salamone, S. J., & McGuire, P. (2021). Point-of-care measurement of clozapine concentration using a finger-stick blood sample. Journal of Psychopharmacology, 35(3), 279-283.

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