Title: Identification and management of vitamin D deficiency in inpatients Trust-wide


Link to repository:
https://repository.nottinghamshirehealthcare.nhs.uk/handle/123456789/3375

Conference name: Trent Study Day: Substance use and forensic mental health
Conference date: 22 November 2019
Conference location: Nottingham, United Kingdom

Additional information:
This is a conference poster presented at the Trent Study Day 2019 hosted by the Forensic Services Division of Nottinghamshire Healthcare NHS Foundation Trust and the Institute of Mental Health.

Version note:
The version presented here may differ from the published version or from the version of record. If you wish to cite the following item, it is advised to consult the publisher version. Access to the publisher version can be found via the repository URL listed above.

For more information about this article, or the research repository, please contact libraryservice@nottshc.nhs.uk

Please cite the published version
Nottinghamshire Healthcare NHS Foundation Trust
Institutional Repository
repository.nottinghamshirehealthcare.nhs.uk
Identification and Management of Vitamin D Deficiency in Inpatients Trust-wide

Zhen Li – Rotational Pharmacist (zhenli@notts.ac.uk); Alexis Lepp – Lead Pharmacist; Matthew Elswood – Chief Pharmacist

Introduction

Vitamin D is an important micro-nutrient, necessary to maintain bones, muscle, and teeth1. It is usually acquired from the sun and through diet2, although sunlight isn’t sufficient in autumn and winter in the UK3. In addition, being housebound/institutionalized is a key risk factor4. Vitamin D deficiency is associated with both physical health complications (e.g. osteomalacia, worsening asthma, and osteoporosis)1,5, as well as mental health complications (e.g. depression and schizophrenia)6. Our patients may be more prone to vitamin D deficiency due to reasons such as social withdrawal or detention in a mental health hospital, hence it is vital to ensure our patients are being monitored and treated appropriately for vitamin D deficiency.

Aims and Objectives

To assess whether vitamin D deficiency is being identified and managed correctly, according to the trust approved guidelines2. Objectives are:

- Assess adherence to guidelines.
- Identify common themes and key issues with the identification and management of vitamin D deficiency.
- Make recommendations following the results of the audit.

Methods and Design

A quantitative data collection form was generated. This was distributed to the pharmacists in all adult inpatient areas, who collected the data using every 3rd patient via ascending bed number. Data was collected as a snapshot on a single day within a 4 week data collection period. This data was then collated and analysed in an Excel spreadsheet. All adult inpatients were included. Patients who refused blood tests were excluded.

Standards

- 100% of patients who are on colecaciferol daily should be on a dose of 800-2000 units.
- 100% of patients who have risk factors or signs of having vitamin D deficiency should have their vitamin D levels assessed.
- 100% of patients who have serum vitamin D levels <30nmol/L should be on replacement therapy.
- 100% of patients who have serum vitamin D levels <50nmol/L and have risk factors should be on replacement therapy.

Discussion and Conclusion

There are areas for improvement regarding the identification and management of vitamin D deficiency in patients with risk factors. The issue of patients not being sufficiently monitored may be around the subjectiveness of risk factors (e.g. does detention in a secure hospital automatically mean housebound, and differing opinions between each person). Issues around treatment may be due to lack of awareness of trust accepted guidance, and the threshold for prescribing vitamin D replacement therapy. However, the monitoring of vitamin D deficiency in patients exhibiting signs of vitamin D deficiency was in line with the trust-approved guidelines, as was the dose of treatment when prescribed. Several limitations were noted. Lifestyle interventions are considered first line management from the trust approved guidance. This was not audited, due to the difficulty in finding the information in patient notes. There was no exclusion criteria for newly admitted patients; therefore, patients who had not yet had admission bloods may have been included. The quantitative data collection form was open to subjective bias (e.g. all patients in a secure hospital are at risk of vitamin D deficiency, despite the fact they have daily access outside), and so this may cause misleading results.

Recommendations

- Vitamin D serum levels should be a routine admission blood investigation.
- Qualitative information should be included (e.g. GP discussions with patients as to whether colecaciferol is indicated, or whether there’s plans to initiate vitamin D replacement following a blood test). Medication is not necessarily prescribed on the day of a test/consultation, and including this type of qualitative question would give a clearer picture about the management of vitamin D deficiency.
- A re-audit should be completed, in order to assess whether the recommendations have positively impacted the identification and management of vitamin D deficiency.


