An audit to explore whether investigations for renal impairment are being performed in hypertensive patients

Farzina Alam
Fourth Year Medical Student

Introduction

The 2014-2015 Quality and Outcomes Framework (QOF) Report found that hypertension accounted for the highest disease prevalence rates in the UK at 13.8%. This is consistent with previous years.[1] Hypertension does not typically present with symptoms and as such, under the current recommendations, blood pressure should be measured at least once every five years in adults. This measure is in place to detect elevated blood pressure before symptoms of target organ damage appear and to implement management plans to reduce the risk of stroke and heart attack.[2, 3]

While awaiting a diagnosis of hypertension, investigations to identify target organ damage should be performed[4].

Aims

The aim of this audit was to assess whether investigations for renal impairment in hypertensive adults are being performed at a General Practice. Several studies suggest that hypertension can negatively affect many organ systems including the kidneys[5, 6, 7]. Moreover, impaired renal function has been associated with higher mortality rates[8]. Therefore, it was decided that it would be useful to find out how many hypertensive patients undergo investigations for renal impairment. Furthermore, data was collected to find out how many of these patients were coded for Chronic Kidney Disease (CKD).

Criteria and Standards

Using the NICE audit support tool for hypertension[9], the following criteria and standards were agreed upon:

1. 100% of patients that have been diagnosed with hypertension in the last 12 months should have their estimated Glomerular Filtration Rate (eGFR) measured;
2. 100% of patients that have been diagnosed with hypertension in the last 12 months should have a follow up eGFR measurement more than 90 days apart, should the initial result be below 60ml/min/1.73m²;
3. 100% of patients that have been diagnosed with hypertension in the last 12 months should have a urine sample taken for estimation of the Albumin:Creatinine Ratio (ACR);
4. 100% of patients that have been diagnosed with hypertension in the last 12 months should have a urine sample taken to test for haematuria using a reagent strip.

Method

The Practice looks after 8455 patients of which there are 1217 (14.4%) patients on the hypertension register. This is slightly higher than the national prevalence as found in the most recent QOF report[10]. A search for all patients placed on the hypertension register since 1st January 2015 was performed on Vision, which is the database holding all patient data. This returned 44 patients which formed the basis of the audit.

Of the 44 patients in the sample, 22 were male and 22 were female. There were no Afro-Caribbean patients in the sample. Below is a summary of the findings, which have been arranged under the following sub-headings:

- eGFR calculated in the last 12 months
- Urine dipstick
- Repeat eGFR
- Estimation of ACR

Results

- 86% of hypertensive patients had an eGFR calculated in the last 12 months.
- 27% of hypertensive patients had a urine dipstick performed.
- 0% of hypertensive patients had a repeat eGFR measurement performed.

Conclusion

1. Six patients had not had eGFR measured in the last 12 months, and this may be due to a number of reasons including patients being borderline hypertensive or patients not attending follow up appointments.
2. Only two patients were found to have an eGFR <60ml/min/1.73m². This supports the evidence which suggests that renal damage is not common in newly diagnosed hypertension.
3. Unfortunately, out of the two patients that had an eGFR <60ml/min/1.73m², only one of these patients went on to have a repeat eGFR. This patient had an initial eGFR of 56ml/min/1.73m². The repeat eGFR after three months was 60ml/min/1.73m². This did not cause the patient to be coded CKD, however, a further eGFR measurement to either confirm or refute a CKD diagnosis would also benefit from a urine dipstick for the presence of protein or estimation of ACR.
4. Indications for repeating eGFR is affected by the types of medication patients are taking. Treatment with ACE inhibitors requires more frequent eGFR measurements.
5. Very few patients had urine ACR estimated, or urine tested for the presence of blood and protein.

Recommendations

1. The patient that had two eGFR measurements of 56ml/min/1.73m² and 60ml/min/1.73m² may benefit from a further eGFR measurement to either confirm or refute a CKD diagnosis.
2. The patient coded CKD3 without proteinuria still requires a repeat eGFR to see if the initial reading of 56ml/min/1.73m² has changed significantly since that sample was taken. This patient would also benefit from a urine dipstick for the presence of protein or estimation of the ACR.
3. All hypertensive patients should be considered for urine dip stick for proteinuria and haematuria, and estimation of ACR. The patient found to have an abnormal ACR in the audit may benefit from a repeat ACR to assess the patient’s current health status.
4. The approach to assessing renal damage in hypertensive patients at The Practice varies from that recommended by NICE. The Practice may benefit from working closer to the NICE guidance, as this may provide a consistent method for measuring improvement in patient care over time.

References


Faculty of Biology, Medicine and Health
www.bmh.manchester.ac.uk