Baseline EKG in Patients with Hypertension

Brooke Baker,MD[1] Rohan Viswanathan, MD[1] Ruochen Ying, MD[1] Jessica Wachtel, MD[2]
[1]Department of Medicine, Rutgers New Jersey Medical School [2] Department of Medicine, Cooperman Barnabas Medical Center

Background

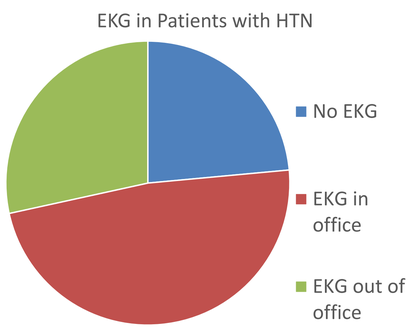
- Hypertension is one of the most common chronic medical conditions in the United States, affecting approximately 46% of people aged 20 years or older. Until the age of 65, HTN is more common in males, but after 65 it is more common in females.
- Based on 2007 JNC guidelines, patients who are diagnosed with Hypertension should have basic testing to evaluate for organ damage. This includes an EKG, BMP, urinalysis, and lipid profile.[1]
- This project aimed to see how successful we at the IMFP clinic were at obtaining baseline EKG's for patients diagnosed with HTN.
- The clinic transitioned to Epic in the Fall of 2021, just prior to the data collection period.
- Because of the recent merger, we wanted to distinguish which EKG's were acquired in our office compared to outside of our office, but available via EMR.
- Baseline EKG's are found to be most helpful for comparison when a patient has new complaints. With findings such as bundle branch blocks, it is important to know if they are new when a patient has new symptoms.

Methods

- ***Study population:***
- Patients whom seek care at the internal medicine faculty practice.
- Using Epic search function, sorted for patients with an established diagnosis of HTN, but without diagnosis of CAD.
- ***Study period:***
- Patients seen in the IMFP 2012—2022.
- ***Data collection:*** Via chart review, assessing if patient had EKG on file.
- ***Exclusion criteria:***
- Excluded patients with CAD, as they would have an EKG for another reason other than screening for end organ damage related to HTN.
- ***Statistical Analysis:***
- Unpaired T-test
- Fisher Exact Test

Results

- Our Epic search yielded 111 charts. The average age of patients was 62.2 years, and 66.67% of these patients identified as female.
- Out of the 111 charts 102 patients had a true documented diagnosis of HTN in notes.
- Of the 102 patients with the diagnosis of hypertension, 76.5% (n=78) had an EKG on file.
- Out of the 102 patients with the diagnosis of hypertension, 48% (n=49) of patient had EKG's completed at the IMFP office.
- To test if there were difference in gender or age between the patients who had EKG's and those who did not have EKG's we ran an unpaired t-test and fisher exact test.
    - There was no difference in gender distribution between those who had an EKG verse those who did not.
    - There was a non-significant difference in age between those who had an EKG on file verse those who did not.



	W/O EKG	W/EKG	P-Value
Age (years)	58.8	63.3	0.1002
Gender, (% Female)	66.67%	66.67%	1.00

Conclusion

- ***Key Findings:***
- Overall, >75% of patients with a diagnosis of HTN had a baseline EKG on file at IMFP.
- There is a non-significant difference in age between those with and without an EKG.
- Using Epic with improved sharing of medical records significantly improved the compliance with having an EKG for patients with HTN.
- ***Study limitations:***
- The subjects were obtained by searching by a documented diagnosis of HTN in the problem list. We may not have captured all patients with a diagnosis of HTN.
- ***Future directions:***
- Although the difference is not significant, those without an EKG had a younger average age. We need to ensure that we are ordering EKG's for patients with HTN regardless of age.

References

- 1. Chobanian AV, Bakris GL, Black HR, Cushman WC et al. National Heart, Lung and Blood Institute Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; National High Blood Pressure Education Program Coordinating Committee. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure: the JNC 7 report. JAMA 2003 May 21;289(19):2560-72.

RUTGERS