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Steven P. Frei MD
Lehigh Valley Health Network, Steven.Frei@lvhn.org

David B. Burmeister DO, FACEP
Lehigh Valley Health Network, david_b.burmeister@lvhn.org

Jesse F. Coil DO
Lehigh Valley Health Network

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Hypertension as a Chief Complaint in the Emergency Department

Steven Frei, MD, David Burmeister, DO, Jesse Coil, DO, Lehigh Valley Health Network, Allentown, Pennsylvania

Abstract
Introduction: Emergency Department physicians have long been aware of patients who present with asymptomatic hypertension. We have further noticed a subset of these patients who present to the ED specifically because the patient measured a blood pressure, found it to be elevated, and came to the ED despite not having any serious symptoms. These patients may have other minor symptoms, but none that would have prompted the patient to seek medical attention. The purpose of our study was to characterize a demographics of patients presenting to the ED with hypertension as a chief complaint and to identify the percent of these patients with a serious final diagnosis.

Methods: This was a retrospective chart review. ED charts from 2008 with a chief complaint of high blood pressure or hypertension in the physician or nursing note were included. Age, gender, triage blood pressure, any associated symptoms, treatment, disposition, final diagnosis, and return visits were noted. The number of serious diagnoses was then determined as defined prior to initiating the study.

Results: 316 charts were reviewed after being electronically selected for chief complaint of “high blood pressure” or “hypertension.” Of these, 91 did not meet inclusion criteria. 73 charts were excluded, primarily because of another serious symptom as part of the chief complaint. 3 charts were excluded because they were duplicate charts. This left 149 charts for analysis in the study group. Of these patients, 4 (2.6%) had a serious final diagnosis (1 kidney failure, 3 congestive heart failure) as defined by the pretest definitions. Other findings included 121 (81.2%) patients having a known diagnosis of hypertension prior to arrival in the ED. Lastly, without a widely accepted standard for diagnostic testing of these patients, we found wide variety in the tests ordered by ED physicians. 13 (8.7%) patients had only an EKG performed. 4 (2.6%) patients had only a urine dip ordered while 8 (5.3%) patients had both an EKG and urine dip. In addition to these tests, 22 (14.7%) patients underwent head CT and 44 (29.5%) patients underwent chest x-ray. 16 (9.3%) patients had no diagnostic testing beyond blood pressure measurement.

Conclusion: In patients presenting to the emergency department with a chief complaint of hypertension or high blood pressure and no serious associated symptoms, the risk of serious outcome is low. While 133/149 (89.2%) patients underwent some form of diagnostic testing, only 4 (2.6%) patients had a serious final diagnosis.

Study Inclusion Criteria
1. Patient presenting to a Lehigh Valley Hospital ED in 2008 with chief complaint of hypertension or high blood pressure
2. 18 years of age or older

Study Exclusion Criteria
1. Another serious symptom as part of chief complaint (specifically chest pain, shortness of breath, abdominal pain, confusion, vomiting, epistaxis, or neurologic deficit)
2. Request for medication refill found in nursing or physician note
3. Pregnancy

Chart Selection Process

316 charts reviewed
Charts met study criteria? Yes No
3 charts were excluded because they were duplicate charts.
149 charts evaluated for study
73 had additional chief complaint
167 charts eliminated from study
91 did not meet inclusion criteria

Patient Demographics

| Age (years) | Range 19-94 | Mean 59.8 | Median 61 |
| Gender | | Male 60 | Female 89 |
| Initial BP | Within normal limits 5 | Systolic BP Range 128-260 | Mean 160.8 | Median 172 |
| Diastolic BP | Range 60-148 | Mean 98.2 | Median 98 |
| Known Hypertension History | Yes 121 | No 28 |
| Disposition Status | Admitted 26 | Discharged or Eloped 123 |

Final Diagnosis Severity
Percentage of patients with serious final diagnosis
4 patients had a serious final diagnosis, 3 CHF cases and 1 kidney failure case.

4 patients had a serious final diagnosis: 2.6% (4 patients)
97.4% (145 patients) non-serious final diagnosis