

Background:

**Hypertension** is an important public health worldwide challenge due to its high prevalence and strong association with cardiovascular disease and overall mortality. About 50% of all heart attack cases and about 60% cerebrovascular accidents are the consequence of higher blood pressure. The aim of this study was to evaluate a demographic characteristics, frequency, clinical presentation, comorbidities, therapeutic procedures and outcomes of patients with primary diagnosis of hypertension admitted to Emergency Department at Clinical hospital "Sveti Duh" between one year (1st April 2015 and 31st March 2016).

Patients & Methods :

A cross-sectional, retrospective study for the period of one year was conducted. Data considered were all hypertension-related ED visits to the Clinical hospital Sveti Duh, Croatian teaching hospital, between 1st April 2016 and 31st March 2017. Diagnosis codes for hypertension included the International Classification of Diseases, codes (I10 -I15).The study was approved by institutional Ethics Committee.

Results

A total of 1346 hypertension-related emergency department visits occurred during the one-year study period (2,6% of all adult ED visits) with almost similar sex distribution (females 51,1% and males 48,9%). Mean systolic and diastolic blood pressures at presenting (triage) were 160.90 ± 15.90 (range 140-250) and 99.90 ± 6.20 (range 90-120), respectively.

The most common accompanying symptoms were headache (73,3%), vertigo (66,5%) chest pain (51%), photophobia (49,6 %) and shortness of breath (49.2%). Major comorbidities include diabetes mellitus (44%) and coronary artery disease (35,8 %). Most patients who present with hypertension have previously been diagnosed as hypertensive, and were treated with antihypertensive therapy (95,9 %). Dietary sodium restriction was strongly advocated as a lifestyle behavioral change in 64 % patients, but only 11,6% patients were instructed to measure blood pressure at home and record the results in diary. Only 2 % of patients require hospital admission.

Table 1. The level of blood pressure in ED on admission

| Blood pressure (mmHg) | Mean ±SD     |
|-----------------------|--------------|
| Systolic              | 160,90±15,90 |
| Range                 | 140-250      |
| Diastolic             | 99,90±6,20   |
| Range                 | 90-110       |

Table 2. The most common accompanying symptoms

|                         | N (%)      |              |        |
|-------------------------|------------|--------------|--------|
| Symptoms                | Male N=658 | Famele n=688 | p      |
| Pain chest              | 314 (47,7) | 373 (54,2)   | 0,017* |
| Photophobia             | 321 (48,8) | 346 (50,3)   | 0,581* |
| Malaise                 | 342 (52,0) | 349 (50,7)   | 0,647* |
| Arrhythmias             | 343 (52,1) | 323 (46,9)   | 0,057* |
| Shortness of breath     | 333 (50,6) | 330 (48,0)   | 0,332* |
| Numbness of extremities | 335 (50,9) | 337 (49,0)   | 0,479* |
| Headache                | 465 (70,7) | 522 (75,9)   | 0,031* |
| Vertigo                 | 414 (62,9) | 481 (69,9)   | 0,007* |

χ² test

Table 3. Comorbidity

|                                 | N (%)      |              |        |
|---------------------------------|------------|--------------|--------|
| Comorbidity                     | Male N=658 | Famele n=688 | p      |
| Diabetes mellitus               | 286 (43,5) | 307 (44,6)   | 0,669* |
| Coronary artery disease         | 237 (36,0) | 245 (35,6)   | 0,876* |
| Arrhythmias                     | 235 (35,7) | 264 (38,4)   | 0,313* |
| Angina pectoris                 | 195 (29,6) | 225 (32,7)   | 0,225* |
| Anemia                          | 272 (41,3) | 273 (39,7)   | 0,536* |
| Previous diagnosed hypertension | 631 (95,9) | 664 (96,5)   | 0,555* |

χ² test

Conclusion & perspectives :

Among patients presenting to the ED with a chief complaint of hypertension or high blood pressure only 2% of patients require hospital admission. This number may indicates appropriate care of patients but also opens the questions of (non) justified their visit to the emergency department.

