



ORIGINAL ARTICLE

## Characterization of patients aged 45 or under admitted with hypertensive emergencies in the Hospital do Prenda<sup>☆</sup>



Geovedy Martínez García\*, Venâncio Miúdo,  
Conceição da Graça Alves Manuel Lopes, Juliana Vassuelela Gomes

Serviço de Cardiologia, Hospital do Prenda, Luanda, Angola

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### KEYWORDS

Hypertensive emergency;  
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### Abstract

**Introduction and Objectives:** The incidence and prevalence of hypertensive emergency have been little addressed in the literature. However, over the last decade increasing numbers of young patients with different forms of hypertensive crisis have been observed in emergency departments. We performed this study to ascertain the clinical and epidemiological characteristics of patients aged  $\leq 45$  years admitted with a diagnosis of hypertensive emergency.

**Methods:** We conducted an observational, descriptive, cross-sectional prospective study of 123 patients hospitalized for hypertensive emergency in the Hospital do Prenda, Luanda, between May 2011 and June 2012.

**Results:** Mean age was  $36.62 \pm 5.49$  years, and most were male (52.85%). The main risk factor was hypertension (65.9%), with 17.3% complying with therapy. The most frequent forms of presentation were hypertensive encephalopathy and hemorrhagic stroke (9.8% and 82.1%, respectively). The main drugs used were diuretics, angiotensin-converting enzyme inhibitors and calcium channel blockers. Mortality during hospitalization was 25.2% (31 patients), hemorrhagic stroke being the most common cause. There was a significant association between age and in-hospital mortality.

**Conclusions:** Of patients admitted with hypertensive emergency, 30.1% were aged  $\leq 45$  years. Hemorrhagic stroke was the most common presentation. There was a significant relationship between mode of presentation, age and in-hospital mortality.

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\* Corresponding author.

E-mail address: [geovedymtnez@infomed.sld.cu](mailto:geovedymtnez@infomed.sld.cu) (G. Martínez).

**PALAVRAS-CHAVE**

Emergência  
hipertensiva;  
Mortalidade;  
Incidência

## Caracterização dos pacientes com menos de 46 anos internados com emergência hipertensiva no Hospital do Prenda

**Resumo**

**Introdução e objetivos:** A incidência e prevalência da emergência hipertensiva têm sido pouco abordadas na literatura. No entanto, tem-se observado ao longo da última década um aumento da chegada aos centros de urgências de pacientes jovens com diferentes formas de crise hipertensiva. Realizamos este estudo a fim de conhecer as características clínicas e epidemiológicas dos pacientes de idade até 45 anos internados com o diagnóstico de emergência hipertensiva.

**Método:** Foi realizado um estudo observacional, descritivo, transversal e proletoivo a 123 pacientes internados com emergências hipertensivas no Hospital do Prenda, de maio de 2011 a junho de 2012.

**Resultados:** A idade média foi de  $36,62 \pm 5,49$  anos, principalmente sexo masculino (52,85%). O principal fator de risco foi a hipertensão arterial (65,9%), com uma adesão de 17,3%. Formas de apresentação fundamentais: encefalopatia hipertensiva e acidente vascular cerebral hemorrágico (9,8 e 82,1%, respetivamente). As principais drogas utilizadas foram os diuréticos, inibidores da ECA e antagonistas de cálcio. Trinta e um pacientes morreram durante o internamento para uma mortalidade de 25,2%, com acidente vascular cerebral hemorrágico, a causa mais comum. Existiu associação significativa entre idade e mortalidade durante o internamento.

**Conclusões:** 30,1% dos pacientes internados com emergência hipertensiva eram jovens de idade até 45 anos. O acidente vascular cerebral hemorrágico foi a apresentação mais comum. Há relação significativa entre o modo de apresentação, a idade e mortalidade durante o internamento.

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**Introduction**

Hypertension (HTN) is a known cardiovascular risk factor and one of the most common diseases encountered in clinical practice, in outpatient, hospital and emergency department settings.<sup>1</sup>

One form of presentation of complications in HTN is hypertensive crisis, defined as an inappropriate, rapid and symptomatic rise in blood pressure (BP), with or without potential acute damage to target organs (brain, heart, kidneys and arteries) that can be life-threatening. The definition includes diastolic BP over 120 mmHg, but lower values can also lead to serious damage, as in acute glomerulonephritis and eclampsia.<sup>2,3</sup>

Hypertensive crisis can be classified as urgency or emergency. Hypertensive emergencies are distinguished from hypertensive urgencies by the presence of acute target-organ damage that is immediately life-threatening, and thus require BP to be lowered within an hour through intravenous drug therapy.<sup>2</sup>

The incidence and prevalence of hypertensive emergencies have been rarely addressed in the literature. It is estimated that around 1% of the general population may suffer a hypertensive crisis. With the advent of new anti-hypertensive drugs, the incidence of malignant HTN with papilledema has fallen from 7% to 1%.<sup>4</sup> However, over the last decade increasing numbers of young patients with different forms of hypertensive crisis have been observed in emergency departments. Most of these patients have already been diagnosed with HTN, but are either untreated or uncontrolled.<sup>5</sup>

Even though the condition is clearly defined, as above, diagnosis and treatment of hypertensive emergencies are the subject of disagreement, but are of the utmost importance in order to prevent the serious damage that can result from the condition.

In light of the above, we set out to ascertain the prevalence of hypertensive emergencies in young patients aged  $\leq 45$  years admitted to our hospital.

**Methods**

This was an observational, descriptive, cross-sectional prospective study of patients aged  $\leq 45$  years admitted with hypertensive emergencies in the Hospital do Prenda, Luanda between May 1, 2011 and May 31, 2012.

A total of 409 patients were hospitalized for hypertensive emergencies during the study period. The patients' medical records were reviewed and any missing data were collected directly from patients or their relatives. All those aged  $\leq 45$  years were included in the study. This was a convenience sample, which after application of the inclusion criteria, consisted of 123 patients, 30.1% of the overall population.

**Clinical variables**

Cardiovascular risk factors were analyzed, including age, gender, smoking, HTN, diabetes, dyslipidemia, obesity, previous stroke and alcohol abuse. Laboratory tests included hemogram, with anemia defined as hemoglobin  $< 10 \times 10^9/l$  and leukocytosis as white blood cell count  $> 10 \times 10^9/l$ ; urea,

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