Emergency department presentation of headache: A retrospective analysis in two Albanian hospitals

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Emergency department presentation of headache: A retrospective analysis in two Albanian hospitals

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ABSTRACT

Headaches represent a common reason for visits to emergency departments, encompassing a broad spectrum of underlying causes ranging from benign to potentially life-threatening conditions. Timely and accurate differentiation between primary and secondary headaches is crucial for healthcare providers to ensure precise diagnosis and prompt intervention. This retrospective observational study, conducted in hospitals in Berat and Pogradec, Albania, from November 2020 to April 2022, aimed to investigate the demographics, clinical characteristics, diagnostic methods employed, and treatment modalities administered to headache patients. Medical records of 221 patients were analyzed, revealing the prevalence of primary and secondary headaches, as well as the therapeutic strategies utilized. The findings of this study hold significant implications for enhancing primary care protocols for headaches in Albanian hospitals, thereby improving patient outcomes and healthcare efficiency.

Keywords: Emergency Department, Headache, Retrospective Analysis, Albanian Hospitals

INTRODUCTION

Headache is a common and multifaceted challenge in emergency departments worldwide, with multiple causes ranging from benign primary headache to potentially life-threatening secondary conditions. The task of healthcare providers is complex and requires rapid differentiation between these categories to ensure accurate diagnosis and prompt treatment [1].

The prevalence of headaches as a common complaint in emergency situations underlines their importance in health care across geographic boundaries [4,9]. Their diverse etiologies, from recurrent tension-type headaches to emerging conditions such as subarachnoid hemorrhage, require a nuanced approach to diagnosis and treatment. In the midst of this complexity, it is the task of healthcare providers to quickly distinguish between primary and secondary headaches. This differentiation forms the cornerstone of effective clinical decision-making that guides subsequent interventions and patient care pathways [1].

Despite the fact that timely and accurate diagnosis is central to the treatment of headache, optimal strategies for managing these cases in an emergency are constantly being researched and developed [2]. The evolving landscape of headache management emphasizes the need for empirical evidence from real-world clinical settings to inform best practice [3]. In this context, retrospective analyzes of headaches provide valuable information about prevailing patterns, trends and outcomes associated with these disorders, an important channel for improving clinical protocols and patient care.

METHODS

A retrospective observational study was conducted to examine headache presentations at Berat and Pogradec hospitals in Albania from November 2020 to April 2022. Medical records of patients who presented with headaches during this timeframe were systematically reviewed.

Data extraction encompassed various aspects including demographics (such as age and gender), clinical characteristics (type of headache, associated symptoms), diagnostic procedures utilized, and treatments administered.

Statistical analyses, consisting of descriptive statistics and potentially inferential tests, were conducted to discern patterns and trends in headache presentations. These analyses aimed to elucidate the epidemiological and clinical features of headaches encountered in the emergency department settings of Berat and Pogradec hospitals.

RESULTS

221 patients total are included in the survey: 124 patients from the Regional Hospital of Berat in Albania and 97 patients from the Pogradec Hospital in Albania. The mean age of the group was 38.26 (SD ±16.83), with 153 (69,2%) female and 68 (31,8%) male [5]. The age range was 16 to 76 years. In total, 6.7% of ED visits were related to non-traumatic headaches (6.4% in Pogradec and 6.9% in Berat), with a disproportionate number of female patients (69.2% vs. 31.8%, p =.001).

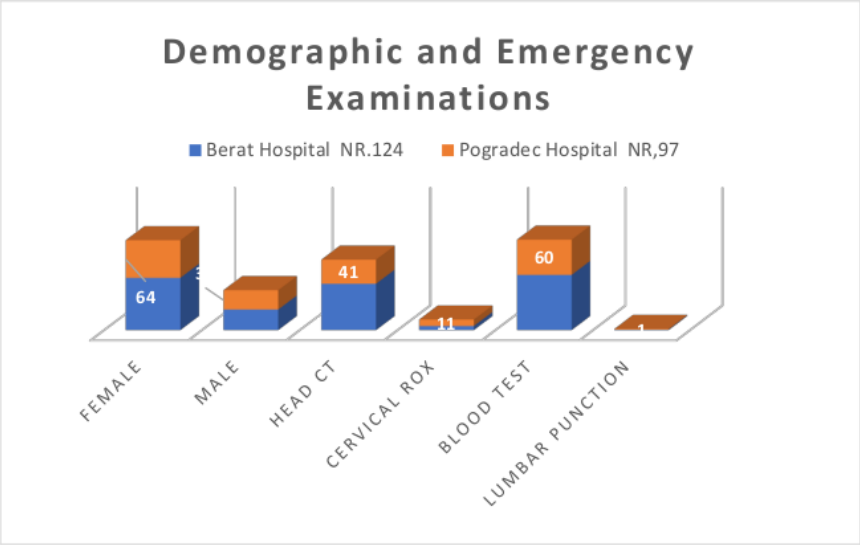
87.78% of the patients underwent an objective neurological examination. 120 patients (54.30%) got non-contrast cranial CT. Two individuals (4.42%) underwent a lumbar puncture. Due to focal neurological complaints, 21 patients (9.5%) were completed with additional testing. Additional tests included an ECG (n = 111; 50.22%), blood test (n = 154; 69.68%).

Table 1. Demographics and emergency examinations in headache patients

	Berat Hospital NR.124	Pogradec Hospital NR,97	Both NR.221	P
AGE	(38.12±17.21)	(40.81±15.02)	(38.26±16.83)	<0.001
Range	(16-76)	(15-73)	(16-76)	
Female	89(71.77%)	64(65.98%)	153 (69.23%)	.000
Male	35(28.23%)	33(34.02%)	68 (30.77%)	.000
HEAD CT	79 (63.70%)	41(42.27%)	120(54.30%)	.009
CERVICAL ROX	7(5.65%)	11(11.34)	18(8.14%)	

Blood test	94(75.81%)	60(61.85%)	154(69.68%)	
ECG	73(58.87%)	38(39.18%)	111(50.22%)	
Lumbar Punction	1(0.80%)	1(1.03%)	2(4.42%)	.441
Neurological exam	103(83%)	91(93.81%)	194(87.78%)	

Chart 1. Demographics and emergency examinations in headache patients



133(60.18.0%) received non-steroidal anti-inflammatory drugs, 29 (13.1%) received acetaminophen, 53 (23.98%) received other medications (such as aspirin, antiemetics, metamizol). 6(2.71%) patients were treated with glucocorticoids. No patient received triptans in emergency. Table 2 displayed further therapeutic recommendations at discharge.

Table 2. Emergency treatment and treatment upon discharge for headache patients.

	Emergency treatment			Discharge treatment		
	Berat Hospital	Pogradec Hospital	Both	Berat Hospital	Pogradec Hospital	Both
NSAID	79(63.70%)	54(55.67%)	133(60.18%)	61(49.19%)	38(40.21%)	99(44.80%)
Acetaminophen	13(11.29%)	16(16.49%)	29(13.12%)	20(16.13%)	22(22.68%)	44(19.91%)
Glucocorticoids	3(2.42)	3(3.09%)	6(2.71%)	-	-	-
Triptans	-	-	-	5(4.03%)	3(3.09%)	8(3.62%)
Others	29(23.39%)	24(24.74%)	53(23.98%)	36(29.03%)	33(34.02%)	70(31.64%)
Missing	-	-	-	2(1.61%)	1(1.03)	3(1.36)

Chart 2. Emergency treatment and treatment upon discharge for headache patients.

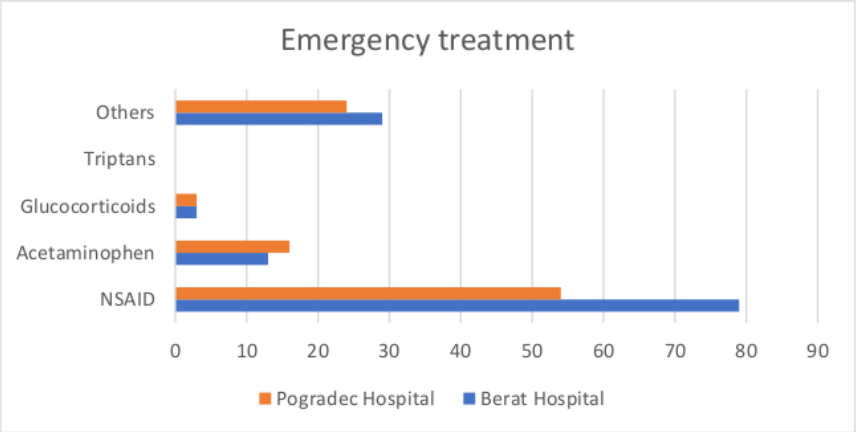
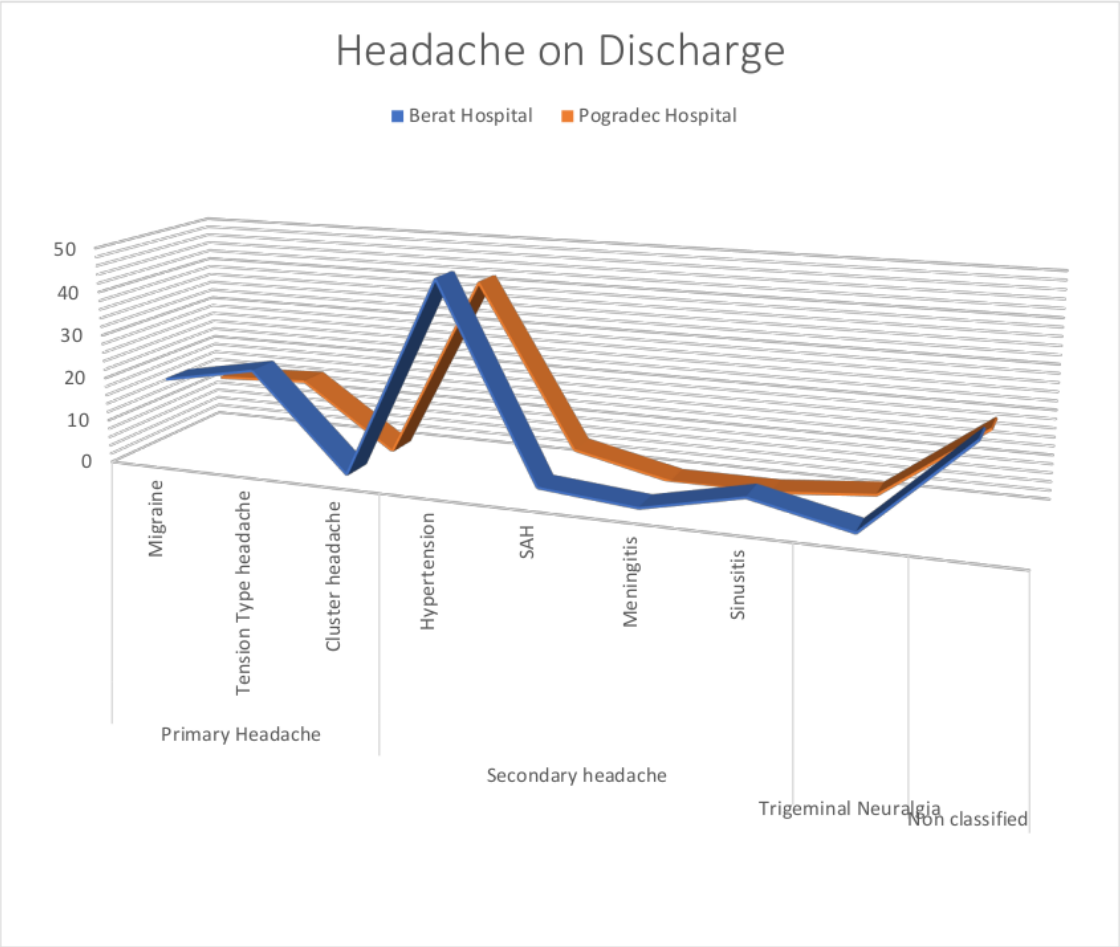


Table 3. Classification of headache types in emergency settings

		Berat Hospital	Pogradec Hospital	Both	X2	P
	Migraine	19(15.32%)	14(14.43%)	33(14.93%)	0.646	0.421

Primary Headache	Tension Type headache	23(18.55)	15(15.46%)	38(17.19%)	0.320	0.571
	Cluster headache	1(0.81)	0(0.00%)	1(0.44)	0.995	0.319
Secondary headache	Hypertension	47(37.90%)	42(43.30%)	89(40.27%)	2.232	0.135
	SAH	3(2.41%)	5(5.15%)	8(6.45)	1.30	0.254
	Meningitis	1(0.81%)	0(0.00%)	1(0.45)	0.995	0.319
	Sinusitis	6(4.84%)	0(0.00%)	6(2.71)	25.80	<0.001
Trigeminal Neuralgia		1(0.81%)	2(2.06%)	3(1.36%)	0.178	0.673
Non classified		23(18.55%)	19(19.59%)	42(19%)	0.771	0.380

Chart 3. Classification of headache types in emergency settings



DISCUSSION

The results of this retrospective observational study illuminate the epidemiology, clinical characteristics and treatment strategies of headache in the emergency department of Berat and Pogradec hospitals, Albania, from November 2020 to April 2022. The discussion focuses on the interpretation of these findings, and explores their implications for clinical practice in the context of existing literature and identify areas for further research.

First, the prevalence of headaches as a common complaint in emergency departments is consistent with global trends [4,7,9]. The diversity of headache etiologies observed in this

study highlights the complexity of headaches for healthcare providers. Although primary headaches, including migraine and tension-type headaches, were common, a significant proportion of patients suffered from secondary headaches, with hypertension being the most common cause. This underscores the importance of thorough assessment and consideration of medical conditions in headache patients, especially in emergency situations where timely intervention is critical [7].

The predominance of nonsteroidal anti-inflammatory drugs (NSAIDs) as the most commonly prescribed treatment reflects current recommendations for the treatment of acute headache [2]. However, the lack of triptan use in the emergency setting raises questions about the availability and use of migraine-specific medications according to guidelines. Further investigation into the reasons for this practice is warranted to optimize headache management and improve patient outcomes.

The demographic distribution of headache patients, with a higher proportion of women observed in this study, is consistent with existing literature showing a higher prevalence of headache among women. Understanding the factors that contribute to this gender disparity, such as hormonal influences and psychosocial factors, can help tailor management strategies.

In addition, the classification of headaches, including the identification of unclassified cases, highlights the challenges of accurately diagnosing headache in the emergency setting. Advanced diagnostic algorithms and decision support tools can help healthcare providers quickly distinguish between primary and secondary headaches, facilitating appropriate treatment and minimizing the risk of adverse events [2].

This study has several limitations, including its retrospective design and reliance on medical records, which may be subject to documentation errors and biases. In addition, the study was conducted in a specific geographic area and may not be generalizable to other settings. Future prospective studies involving standardized headache assessment practices and long-term follow-up are needed to elucidate factors influencing headache occurrence and outcomes in emergency departments.

CONCLUSIONS

The findings of this study provide valuable insights into the epidemiology and management of headaches in Albanian hospitals. Addressing these findings can potentially enhance emergency care protocols for headaches, contributing to improved patient outcomes and healthcare efficiency. Continued research and collaborative efforts are essential for refining strategies and elevating the overall standard of emergency headache management in Albania and beyond.

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