VOLUME - 12, ISSUE - 01, JANUARY - 2023 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Emergency Medicine

EPIDEMIOCLINICAL PROFILE OF PAIN IN EMERGENCY ROOM OF THE TEACHING HOSPITAL SOUTH MAHAVOKY MAHAJANGA MADAGASCAR

Tohaina Dolly Velonjara	Emergency Unit Teaching Hospital South Mahavoky Mahajanga
Andrianimaro Florelia Martinetti*	Medical-surgical Intensive Care Unit, Teaching Hospital Tambohobe Fianarantsoa - Madagascar *Corresponding Author
Rabenjarison Franklin	Intensive Care Unit, Teaching Hospital Andohatapenaka Antananarivo – Madagascar
Harioly Nirina Marie Osé Judicaël	Department of Anesthesia Resuscitation, Morafeno-Toamasina Teaching Hospital, Madagascar
Rasamimanana Naharisoa Giannie	Emergency Unit Teaching Hospital South Mahavoky Mahajanga
Raveloson Nasolotsiry Enintsoa	Intensive Care Unit, Teaching Hospital Andohatapenaka Antananarivo – Madagascar

ABSTRACT **Introduction:** Pain is a very frequent symptom in emergency medicine and the understanding of its epidemio-clinical characters is essential to better manage it. The objective of our work was to describe the epidemiological and clinical characteristics of acute pain in a medical emergency department. **Materials and methods:** This is a prospective study carried out in the Emergency Reception-Triage Service of the CHU-MA Mahajanga, from October 1, 2018 to September 30, 2019. We recorded the socio-demographic data of the patients as well as the characteristics pains. The variables were analyzed by SPSS 25.0 software. **Results:** The frequency of painful patients admitted is estimated at 43.5%. The pain has concerned mainly patients from 46 to 60 years old (27.33%), with an average age of 57 years of female gender (61.2%). The group working in the informal sector (65.5%) was the most affected. As for the reasons for admission, it was mainly acute pain (86.3%) due to an excess nociception (97.9%), dominated by medical pathologies with preponderance digestive pathologies (34.5%). **Conclusion:** Through this study, we were able to see that pain is the most common reason for entering the emergency room. According to our study, it predominates in people of age more advanced and the most frequent causes are medical pathologies.

KEYWORDS : Acute pain, emergency medical service, epidemiologic study.

INTRODUCTION

Pain is a frequent clinical situation which constitutes the majority of the reasons for admission to the emergency room. In this context, it is most often acute pain which is a symptom and differs from chronic pain which is a syndrome [1]. Pain assessment is an essential prerequisite for any therapeutic approach. Evaluation tries to make objective what is eminently subjective. Use systematic evaluation tools helps to avoid misinterpretations. That is what encouraged us to carry out this study which aims to describe the epidemiological aspects and pain clinics in the emergency department of CHU South Mahavoky Mahajanga.

MATERIALS AND METHODS

This is a prospective, descriptive and cross-sectional study, conducted over a period of twelve months, from October 1, 2018 to September 30, 2019. It concerned about all patients admitted to the emergency reception room of the CHU MA. Were included all painful patients and aware, whatever the reason for admission, of age greater than or equal to 18 years, and able to express their level of pain, all patients who were assessed for pain by Visual Analogue Scale (VAS) and having received analgesic treatment accordingly. We have excluded the records incomplete and those with non-usable pain assessment. The variables anthropometric and socio-demographic, age, gender, occupation as well as the geographic location were studied. We researched the modes and reasons for admission, the pathology associated with pain, history, expression of pain on admission, localization area and presentation of pain. The variables were analyzed by the SPSS 25.0 software and the results are expressed as an average and as a percentage.

RESULTS

During our study period, 333 patients were admitted to the Emergency Department of CHU-MA Mahajanga. Among these patients, 145 presented symptoms painful, a frequency of 43.54% and 139 were included.

Socio-demographic data of patients

The average age of our patients was 57 years old with extremes ranging from 18 to 96 years old. The pain mainly concerned 46 to 60 years old patients (27.33%), with a sex ratio of 0.63 predominantly female. Moreover, more than half, or 53.94%, are over 46 years old. Most of our patients, 91 in number (65.5%) work in the informal sector, i.e. those who work on their own account: merchant, saleswoman, craftsman, driver, mechanic, farmer. The majority, 117 (84.2%) live in town. Patients are alcoholic in 11.5% of cases and 8.6% are smokers. They are drunk smoking in 4.3% of cases. Forty-point-one percent take medications including 10.7% of analgesics. Cardiovascular and digestive antecedents predominate in respectively 28% and 11.5%. The majority of patients, numbering 86 or 61.9%, are came to consult by their own means and the remaining 14, i.e. 38.1%, are referred by the city doctors.

Characteristics of pain

Table I presents the distribution of patients according to admission pathologies. The digestive (34.5%) and vascular (30.2%) pathologies predominate. Acute pain that appears within 24 hours occupies the majority of cases in 40.3% (Figure 1). It is a constant pain in 52.5% and intermittent in 34.5% of cases.

According to Table II, the pains are mainly throbbing in 36% and stinging in 16.5%.

It is of moderate intensity in 62.6% (VAS 4-6), intense in 20.9% (VAS 7-10) and weak in 16.5% (VAS 1-3) of cases. The VAS scores according to pain location are summarized in Table III where the moderate abdominal pain predominates followed by pain in the head and of the neck, always at moderate intensity.

Table I: Distribution according to admission pathologies

Pathologies	Effectives	Proportion (%)
Medical		
Digestive	48	34.5
Cardiovascular	42	30.2
Headaches	15	10.8
Infectious	14	10
Pleuropulmonary	4	2.9
Urological	4	2.9
Ear Nose Throat	3	2.2
Neurological	3	2.2
Nephrological	3	2.2
Psychogenic	2	1.4
Rhumatological	1	0.7
Surgical	-	-

Table II: Distribution according to type of patient's pain

Type of patient's pain	Effective (n)	Proportion (%)
Nociceptive		
Throbbing	50	36
Sting	23	16.5
Heaviness	19	13.7
Twinge	18	13
Constrictive	12	8.6
Burn	14	10.1
Neuropathic	-	-
Mixed	-	-
Psychogenic	3	2.2

Table III: Distribution of VAS* scores according to location of pain

Location	Intensity of pain (VAS*)			Total n (%)
	1-3 n (%)	4-6 n (%)	7-10 n (%)	
Abdomen	10 (16.9)	33 (55.9)	16 (27.1)	59 (100)
Head and neck	6 (14.3)	30 (71.4)	6 (14.3)	42 (100)
Thorax	6 (22.2)	17 (63)	4 (14.8)	27 (100)
Pelvis	1 (50)	1 (50)	-	2 (100)
Lower limbs	2 (22.2)	7 (77.8)	-	9 (100)
Total	25 (18)	88 (63.3)	26 (18.7)	139 (100)

***VAS:** Visual Analogue Scale

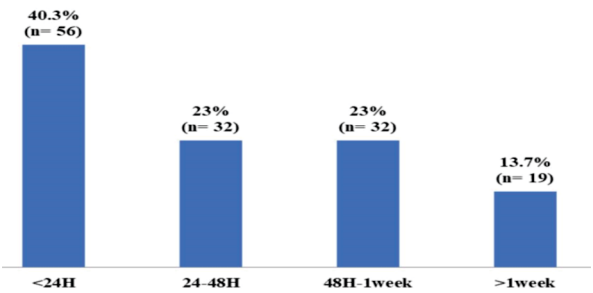

Figure 1: Frequency of time to onset of pain in patients

DISCUSSION

For emergency reception services, pain is a symptom experienced daily and the epidemiological data are now well supported. During our study, 43.54% of patients had painful symptoms. The survey carried out on all six SAUs in France objectified the prevalence of intense pain at 36% in patients aged over 15 years [2]. Mura P and al found a pain prevalence of 70%. The events trauma were the first cause in 40.44% of cases, followed by urological pain (13.52%), abdominal (13.39%) and non-traumatic musculoskeletal (7.10%) [3]. A slight female predominance was observed with a sex ratio of 0.63. Various studies population-based studies indicate that women are more susceptible to pain and have tend to report more severe pain than men [4, 5]. The study having been carried out in the urban commune of Mahajanga, it is logical that the Majungeses represented 84.2% of our patients, 15.8% coming from other rural municipalities. Several studies have shown that living and working in harsh conditions provide endurance in the face of pain [6]. In our study, patients working in the informal sector were the most affected by pain with 65.5% of cases. Our patients arrived by their own means in the majority cases in 61.9%. These results were comparable to those of other studies conducted by Boccard and al in France where 53% of patients went directly to the emergency room [7].

The Reasons for admission with a painful component were dominated by pathologies which showed a preponderance of digestive pathologies in 34.5% of cases. In 2010, a study showed that it was the medical pathology in more than 43% of case [8]. In our series, abdominal pain was the most common pathology (42.4%). The etiologies observed most frequently were gastric ulcer, irritable colon, gastroenteritis, gastrointestinal bleeding. Next come headaches (27.3%) whose most common etiologies were headaches due to hypertension (15.8%) and headaches due to an infectious syndrome (11.5%). Finally, the chest pains accounted for 19.4% of consultations. The most common etiologies were coronary insufficiency, parietal pain, anxiety attacks. In their study, Cordell et al has defined pain as word pain or a pain equivalent word (aching, burning and discomfort) and pain was a chief complaint for 52,2% of patients [9]. Whatever the reason for consultation of the patients, it was found that the majority of the patients received already presented at their admission a medical history which was dominated by cardiovascular pathologies (28%), then digestive pathologies (11.5%). Patients had a surgical history in 18.7% of cases. According to the way of life, 75.5% of patients were alcohol-tobacco-free. Based on these results, it could be assumed that the reason for consultation was not necessarily related to the patient's history. Pain is an entirely subjective and personal experience. In this study 40.3% of pain appeared in less than 24 hours. This is an acute pain, according to the literature characterized by its short time to appearance, generally less than one month [10]. These pains are qualified as permanent in 52.5% of cases, intermittent in 34.5%. In our study, 36% of patients described their pain sensation as being of the beat, 16.5% pitting type. In fact, we can argue that the pain encountered during our study was of the nociceptive type. No neuropathic or mixed pain was present in our series.

The literature also explains that the frequency of nociceptive pain in the emergency department underlies the majority of acute pain [11]. In our study, the intensity of pain was quantified mainly by the use of the VAS and we found moderate pain in 62.6% of patients. However, in studies performed by Lvovschi VE and al, the feasibility of VAS was questioned by 20% of physicians and the use of VAS in Triage could lead to an overestimation [12]. In the literature, pain rated as severe was the major category in the emergency department [8]. Our study revealed that according to the location and intensity of patient pain, abdominal pain and

headache felt intense in 27.1% and 14.3% of cases respectively.

CONCLUSION

In emergency medicine, acute pain is a reality that affects the majority of patients. It is accepted that its management is an emergency because of its potentially deleterious effects. This management must be individualized, i.e. adapted to the patient, to the assessment of pain and the causal pathology. Our study was able to show that pain predominates in people of older age with a rather moderate intensity and the most frequent causes are medical pathologies.

REFERENCES

1. Victorri-Vigneau C, Guillou M, Bronnec M, Gérardin M, Louvigné C, Vandermersch F et al. Acute pain management in patients with maintenance Treatment. Lett Pharmacol 2009;23(4):134-38.
2. Brun C, Leyral J, Debeaume C, Marchi J, Barberis C, Meyran D et al. Pain assessment and management in 517 patients in a French pre-hospital department. J Eur Urgences 2010; 23(2):29-33.
3. Mura P, Serra E, Marinangeli F, Patti S, Musu M, Piras I et al. Prospective study on prevalence, intensity, type and therapy of acute pain in a second-level urban emergency department. J Pain Res 2017; 10: 2781-8.
4. Wiesenfeld-Hallin Z. Sex differences in pain perception. Gend Med 2005;2:137-45.
5. Tsang A, Von Korff M, Lee S. Common chronic pain conditions in developed and developing countries: gender and age differences and comorbidity with depression-anxiety disorders. J Pain 2008;9:883-91.
6. Atallah F, Guillermou Y. Man and his pain: anthropological and social dimension. Ann Fr Anesth Réanim 2004;23(7):722-9.
7. Boccard E, Adnet F, Gueugniaud P, Filipovics A, Ricard-Hibon A. Pain management in adult patients in emergency care units in France in 2010. Ann Fr Med Urg 2011;1:312-9.
8. Martinez M, Pozzetto I, Gallego F, Crozet M, Rigaudiere P. Evaluation of professional practices relative to pain management in Mobile Emergency Unit. J Eur Urgences 2010:23, 93-9.
9. Cordell WH, Keene KK, Giles BK, Jones JB, Jones JH, Brizendine EJ. The high prevalence of pain in emergency medical care. Am J Emerg Med 2002;20(3):165-9.
10. Galinski M, Hoffman L, Bregeaud D, Kamboua M, Ageron FX, Rouanet C et al. Procedural Sedation and Analgesia in Trauma Patients in an Out-of-Hospital Emergency Setting: A Prospective Multicenter Observational Study. Prehosp Emerg Care 2018;22(4):497-505.
11. Donovan M, Dillon P, McGuire L. Incidence and characteristics of pain in a sample of medical-surgical in patients. Pain 2001;30:69-78.
12. Lvovschi VE, Hermann K, Lapostolle F, Joly LM, Tavolacci MP. Bedside Evaluation of Early VAS/NRS Based Protocols for Intravenous Morphine in the Emergency Department: Reasons for Poor Follow-Up and Targeted Practices. J Clin Med 2021, 10, 5089.