



THERAPEUTIC ASPECT OF PAIN IN EMERGENCY: EXPERIENCES SEEN FROM A TEACHING HOSPITAL WITH LOW-RESOURCES SETTINGS

Emergency Medicine

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ABSTRACT

Objective: To describe the therapeutic aspect of acute pain in a medical emergency department and to report our experiences. **Patients And Methods:** A prospective study was performed over a 12-month period in the Reception-Triage-Emergency service of the teaching hospital Mahavoky Mahajanga. Therapeutic modalities along with the evolutionary data of pain were studied. The variables were analyzed by SPSS 25.0 software. **Results:** Of the 139 patients selected, pain intensity was assessed on admission and after treatment using the visual analogue scale (VAS). Pain was moderate in 62.6% of cases. Acetaminophen constituted the large share of prescriptions (45.3%). Levels II and III were insufficiently prescribed with regard to the pain intensity observed on admission (respectively 2.2% and 1.4%). The wider use of the intravenous route was significant (69.1%). After treatment, 32.4% of patients were completely relieved. **Conclusion:** According to this study, pain management still needs to be improved. This requires for good staff training and doctor-nurse collaboration to be part of a quality approach.

KEYWORDS

Analgesics, assessment, emergency services, pain, reassessment

INTRODUCTION

Analgesia is a permanent challenge for emergency physicians [1]. Recent data from the literature show that pain remains insufficiently managed in emergency departments, regardless of the age of the consultants [2]. It is in the face of these circumstances that our work takes place. Our objective was to describe the therapeutic aspect of acute pain in a medical emergency department and to report our experiences.

METHODS

This is a prospective, descriptive and cross-sectional study, carried out over a period of twelve months, from October 1, 2018 to September 30, 2019. All patients admitted to the emergency room of the CHU Mahavoky Atsimo were concerned. All conscious patients with pain, regardless of the reason for admission, aged 18 or over were included, all patients who had undergone a pain assessment and had received analgesic treatment consequently. Incomplete files and those whose pain assessment was not usable were excluded. Age and gender were studied. We evaluated the pain by visual analogue scale (VAS) and then we observed the therapeutic modalities (previous out-of-hospital medication and the aspect of the care in the emergency room) as well as the evolutionary data (Re-evaluation of the pain after the care, satisfaction according to the relief and the future of the patient). The variables were analyzed by SPSS 25.0 software and the results are expressed as an average and as a percentage.

RESULTS

During the study, 145 patients were included and 139 were retained. The average age of our patients was 57 years with extremes ranging from 18 to 96 years and a sex ratio of 0.63 with female predominance. On the different sites of pain, abdominal localization predominated at 42.4% followed by pain located in the cephalic area at 30.3% and in the thoracic area at 19.4% (figure 1). According to Table I, 26% of patients took analgesics before admission to hospital, 60% of which are level I

analgesics. On admission, level I analgesics, of which acetaminophen was the most prescribed, 2.2% of patients received level II and 1.4% level III. The drugs were administered intravenously in 69.1% and orally in 29.5%. Psychotherapy was the non-drug means used, from which 73.4% of patients benefited. As far as evolution is concerned, the majority of patients saw the intensity of their pain regress. There remained only 43.2% mild pain, 23.7% moderate pain, 0.7% severe pain and 32.4% of patients no longer had any. We found that 49.6% of patients felt their pain lessened, 32.4% saw pain disappear, and 18% reported stationary pain despite being prescribed analgesia.

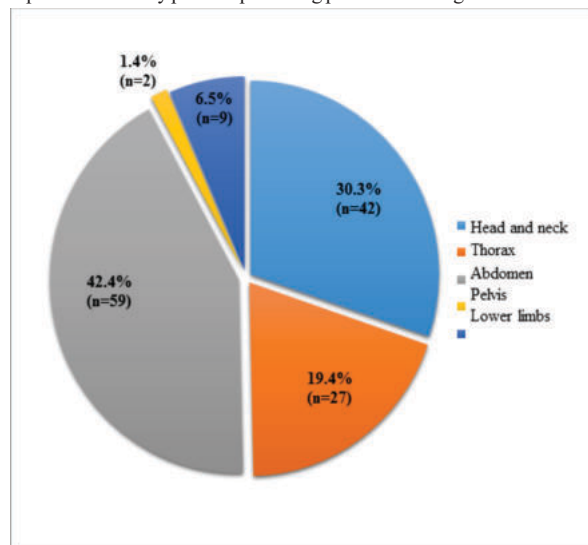


Figure 1: Distribution according to pain localization area

Table I: Distribution of patients according to previous non-hospital medication

Characteristic	Number (n)	Proportion (%)
Medication with analgesics		
• Yes	15	26.8
• No	41	73.2
Analgesic taken		
• Level I	9	60
• Level II	-	-
• Level III	-	-
• Co-analgesic	2	13.3
• Combination of analgesics	-	-
• Other analgesic treatments	4	26.7

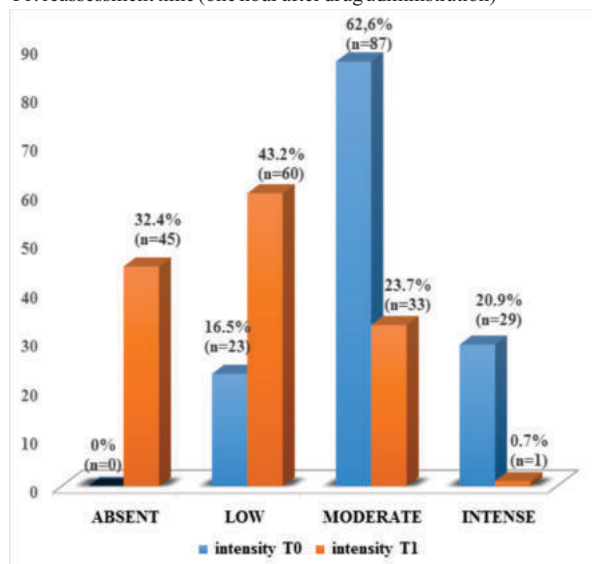
Table II: Analgesic prescription and their combination according to pain intensity

Prescribed analgesic	Intensity			Total
	Low n (%)	Moderate n (%)	Intense n (%)	
Level I, II or III analgesics				
Only level I	10(15.9)	44(69.8)	9(14.3)	63(45.3)
Only level II	-	2(66.7)	1(33.3)	3(2.2)
Only level III	-	-	2(100)	2(1.4)
Drug combination				
Level I+ co-analgesic	4(11.8)	16(47.1)	14(41.2)	34(24.5)
Level I + Level III	-	-	1(100)	1(0.7)
Others				
Co-analgesics	3(20)	12(80)	-	15(10.8)
Other analgesic treatments	6(28.6)	13(61.9)	2(9.5)	21(15.8)
Total	23(16.5)	87(62.6)	29(20.9)	139(100)

Low pain: VAS 1-3; Moderate pain: VAS 4-6; Intense pain: VAS 7-10

T0: initial assessment time

T1: reassessment time (one hour after drug administration)

**Figure 2: Distribution Of Changes In Pain Intensity According To Vas After Taking Medication****Table III: Relationship Between The State Of Relief And The Outcome Of The Patient**

Outcome of patients	Relief			Total n (%)
	Mitigation n (%)	Stationary n (%)	Disappearance n (%)	
Exit	7(41.2)	3(17.6)	7(41.2)	17(100)
Transferred	56(52.3)	17(15.9)	34(31.8)	107(100)
Deceased	2(28.5)	4(57.1)	1(14.3)	7(100)
Discharge	4(50)	1(12.5)	3(37.5)	8(100)
Total	69(49.6)	25(18)	45(32.4)	139(100)

DISCUSSION

Frédéric Aubrun in 2009 summarized good analgesia in five golden rules: good evaluation; quick, short and safe analgesia; intravenous morphine titration; place of acetaminophen and NSAIDs, and finally the anticipation of pain [3]. In our study, 26.8% of our patients had taken analgesic treatment before admission and level I analgesics were taken the most (60%). The use of a reliable, reproducible and validated scale is very important to assess pain [4]. In our study, this pain intensity was quantified mainly by the use of the visual analogue scale. The feasibility of VAS has been evaluated in intra- and extra-hospital emergency medicine with feasibility rates of 83 to 94% [5]. As far as we are concerned, the pain was more often moderate in 62.6% of patients, then severe in 20.9%. A calm attitude and attentive listening to the patient's complaint can reduce anxiety phenomena [6]. In our study, the psychological approach was the only non-drug means used, from which 73.4% of patients benefited. With regard to drug treatments, during the stay in the emergency room, the treatments received were essentially of the non-morphine type. Levels II and III were insufficiently prescribed with regard to the pain intensity observed on admission. These results are nevertheless consistent with those found in the literature [7]. Of the 29 patients who expressed severe pain, three patients (2.2%) received level III analgesics, which do not correspond to the recommendations on pain management, especially in the emergency department [8]. This could be related to the obstacles that stand against the use of morphine [2]. We also noted a minimal result for the combination of analgesic drugs. Considerable efforts must be made to align with pain management standards, in terms of the availability of drugs, updating the knowledge of nursing staff, but also in raising patient awareness of the importance of express pain. In a pain quality approach study, Guéant showed that paracetamol is the most prescribed 50% of analgesics [7]. In the bearing study by Boccard et al. [9], only 42% of patients with moderate to severe pain on admission received an analgesic treatment, of which 63% received step I, 19% at least step II, 8% of patients received at least step III, 22% received co-analgesics. Our study showed a wider use of the intravenous route at 69.1%. These results are comparable to the study carried out by Benwarth [10] where he judges that the intravenous route is the most suitable for emergencies. In a meta-analysis [11], it appears that there is no difference in terms of pain reduction and morphine saving between the oral route and the injectable route of paracetamol. Paradoxically, our patients had a marked improvement after pain management. The majority of patients saw the intensity of their pain regress.

CONCLUSION

The psychological approach was the only non-drug method used. The underuse of opioids was striking with a broader prescription of level I analgesic treatments, regardless of the level of pain. Thus, it is essential to ensure the continuous training of doctors and nurses in the management of acute pain, a warning sign and frequent reason for admission to the emergency room. Their competence will constitute one of the pillars of this support.

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