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Anesthesiological Management of Patients Operated on Urgently in a Structure on the Outskirts of Bamako (Mali)

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Abstract | **Original Research Article**

In this prospective study spread over a period of 12 months, the objective was to describe emergency Anesthesiological management and possible incidents and accidents. Surgical, neurosurgical, gynecological and ortho-trauma emergencies were concerned by this study. 59 patients were collected during the study period. The 15-30 age group was the most prevalent and the sex ratio was 1.36 in favor of males. The majority of patients (61%) were in good general condition and the majority of our patients had no history. General anesthesia was the most widely used anesthetic protocol. Acute appendicitis was the most common pathology encountered both preoperatively and intraoperatively. Seventy-two point nine (72.9%) of interventions were completed in less than 90 minutes. Intraoperative antibiotic prophylaxis was performed in 86.4% of cases. The most common side effect was low blood pressure. The outcome was favorable in 89.8% of cases and 6 deaths were observed. Urgent intervention by the anesthesiologist is necessary for life-threatening reasons.

Keywords: Anesthesiology, emergencies, incidents, accidents, antibiotic prophylaxis.

INTRODUCTION

Emergency is the pressing condition of a patient whose treatment cannot be postponed without endangering his life [1]. Current or imminent abnormal situation requiring rapid intervention or special regulations targeting persons or property in order to preserve the health, safety or well-being of persons or to limit damage to documents or property [2]. The difficulties associated with an emergency anesthesia differ from one patient to another. Each situation is distinguished by the type of patient and the importance of the impact of the impact of the disease on vital functions. However, two characteristics are almost always found: the urgency of the intervention and the urgency of the initiation of intensive care. The difficulties linked to surgical emergencies remain more topical than ever in our country, their prognosis still remains severe with a mortality of 20 to 30% [3]. The aim of our study was to analyze the anesthesiology management of patients operated on in emergency rooms.

METHODOLOGY

It was a prospective and descriptive study spread over a period of 12 months (January 1 to December 31, 2009) and carried out at the level of the of the anesthesia and intensive care unit of the hospital of Kati. It concerned all patients admitted to hospital and having undergone a pre-anesthetic visit for surgery during the study period. Patients who were anesthetized outside the emergency setting were not included in our study. Our data were collected on the basis of anesthesia files and postoperative care files. The variables measured were: socio-demographic data, clinical and para-clinical data, quantification of anesthesia, anesthetic protocol and drugs used, intraoperative blood transfusion, surgical technique, duration of the intervention, undesirable effects encountered, their nature, their time of onset and their evolution, postoperative management. SPSS 12.0 software was used for data entry and analysis.

RESULT

During the period of our study, 59 patients were seen for a pre-anesthetic visit, including 34 (57,60) men and 25 women (42,40). The 15-30 age group was the most represented (45,8%). On examination, the majority of patients were in good general condition (61%). Abdominal surgical emergencies were the most common (72,90%) followed

by trauma (22%). Acute appendicitis was the most observed preoperative diagnosis (23,7) followed by bowel obstruction (16,90). Seventeen (17%) of the patients had a history of anesthesiology and twenty-two (22%) of the patients had a medical history. The group/Rhesus and the N.F.S were the most urgent para clinical examinations (Table-1).

Table-1: Distribution of patients according to the para clinical examinations actually carried out

Examinations	OUI	NON	Total
Group/Rhesus	61%	9%	100%
Blood count	61%	9%	100%
Rx standard	22%	78%	100%
Serum creatinine	15%	5%	100%
Glycemia	14%	6%	100%
Ultrasound	12%	88%	100%
Scanner	%	98%	100%

General anesthesia was performed in 525% of cases (Table-2).

Table-2: Distribution of patients according to the technical anesthesia.

Anesthesia technique	Frequency	Percentage
General anaesthesia	31	52,5
Rachianesthesia	26	44,1
Trunk block	1	1,7
A. Local	1	1,7
Total	59	100

Bupiyacaine 0,5 alone was the most widely used drug in ALR (RA) (81,50%). Ketamine and succinycholine were the most widely used maintenance drugs. IOT with manual ventilation was the most performed ventilation mode (96,60%). The anesthetic act was performed in 33,9% of cases under the responsibility of a doctor (Table-3).

Table-3: Distribution according to the qualification of the anesthesia

Qualification	Frequency	Percentage
Doctor + PhD student	3	5,10
Doctor + Anesthesia technicians	17	28,80
Anesthesia technicians + PhD student	23	39,00
Anesthesia technicians	16	27,10
Total	59	100,00

33,90

Antibiotic prophylaxis was performed in 86,4% of cases. The transfusion was performed only once. General anesthesia was the most common source of adverse events (Table-4) and arterial hypotension was the most common adverse event (23,70%).

Table-4: Distribution of adverse events according to type of anesthesia

Effective		Types of anesthesia				Total
Types of events		A.G	R.A	A. L	B. Trunk	
	Hypotension	5	9	0	0	14
	Hypertension	1	1	0	0	2
	Tachycardia	2	0	0	0	2
	Hypotension-tachycardia	2	0	0	0	2
	Puncture of the balloon catheter	1	0	0	0	1
	Hypotension-Agitation-Prolonged awakening	1	0	0	0	1
	Hypotension-bradycardia	0	1	0	0	1
	None	19	15	1	1	36
Total		31	26	1	1	59

The majority of adverse events occurred preoperatively (32,20%). The majority of the interventions took place in less than 90 minutes (73,90%). In the majority of cases paracetamol infusion alone was the analgesic used (62,70%). The outcome was favorable in 89,8% of cases (Table-5) and only 30,50% of the patients had undergone intensive care.

Table-5: Distribution of patients according to the evolution

Evolution	Frequency	Percentage
Favorable	53	89,8
Death	6	10,2
Total	59	100

DISCUSSION

In our study, the 15-30 age group was the most represented (45,8%). This observation could be explained by the structure of the African population, which is predominantly young. Our result was close to those of Ouattara K. [4] wih 41,10% between 15-29 years and of Christian S. [5] with 42%. In our study, there was a male predominance (57,6%) against 42% of women. Our result was comparable to that of Ouattara K. [4] who found male predominance with 71,76%. Tiogo [6] on the contrary before found a sex ratio of 1,29 in favor of the female sex. This observation was different from ours. Abdominal surgical emergencies were the most common (72,90%) followed by trauma (22%). Acute appendicitis was the most observed preoperative diagnosis (23,7%) followed by intestinal obstruction (16.90). The medical history was found in 22% of our patients. Our result was close to those of Fotso K [7] and Ouattara K [4] with respectively 17,22% and 19,9% but far behind that of Moussa K [8] with 44%. Anesthesia history was found in 17% of patients and general anesthesia was the most common anesthetic history with 10,2%. Our result was different from that of Ouattara K [4] with 3,5% anesthetic history and the most frequent was lororegional anesthesia. In our study the blood group/rhesus and the blood count were the only examinations performed (61%) each and the intervention was started most often without waiting for the results of these examinations. This observation could be explained by the unavailability of other emergency examinations in the structure but also by the lack of qualified personal to carry out these examinations. General anesthesia was the most performed during our study (52,5%). The same is true for Ouattara K [4] with 97,3%. This choice seems justified if one takes into account the particular working conditions in an African environment. In the authors agree in emphasizing the risks associated with locoregional peri-medullary anesthesia during emergencies, in particular because of the hypovolimic terrain. Only one case of peripheral ALR was performed. This observation could be explained by the absence of suitable material for the realization of this technique and also, the lack of mastery of the technique. For the induction of GA the most used hypnotics were Ketamine followed by propofol. This observation was different from those of ASSINA Sau [12] and Ouattara K [4] who had found thiopental after Ketamine. Succinylcholine was the cuare of choice during induction and fentanyl was the only pain reliever used for GA the same observation to Ouattara K [4]. Locoregional anesthesia (RA) was done by bupiyacaine alone (81,5%) and by bupiyacaine associated with Fentanyl (3,7%). Our results were comparable to that of Bengaly M [13] who had found for bupiyacaine alone (81,4%) and for bupiyacaine associated with Fentanyl (15,1%). Orotracheal intubation associated with manual ventilation was the ventilation mode used in more than half of cases (96,6%). Our result far exceeded that of Ouattara K [4] who found 51,08% for the same ventilation mode. The main reason being insufficient ventilator, antibiotic prophylaxis was performed in more than half of the cases. In our study, the majority of anesthetic acts were performed by anesthesia technicians and sometimes with the help of PhD students (66,1%). This finding could be explained by the insufficient number of specialist physicians in the field who can provide both day and night coverage. Our result was not comparable to those of the SFAR [14]; by Venet. C [15] and of Gravot. B [16] who report 100% responsibility of an anesthesiologist due to the sufficient number of anesthesiologist due to the sufficient number of anesthesiologists their respective country. General anesthesia was the most common source of adverse events and arterial hypotension was the most common adverse event (23,70%). The majority of adverse events occurred preoperatively (32,20%). This finding was identical to that of Bengaly M [13], but different from that of Tiogo [6] in whom the adverse events occurred during induction. Paracetamol alone as an infusion was the analgesic used for the management of postoperative pain. This finding could be explained by the absence of a postoperative pain management protocol but also by poor knowledge of pain management by the nursing staff. In our study 72,9% of the interventions took place in less than 90 minutes. Our results were comparable to those of Christian S [5] and Ouattara K [4] with respectively 69,% and 73,1%. The outcome was favorable in 89,8% of cases. However 10,2% of patients died postoperatively. These deaths could be explained by the delay and the poor quality of the care. Our result was different from those of the literature [5, 17] which found 8,87% and 0,6% of preoperative deaths, respectively.

CONCLUSION

The management of emergency patients with a view to surgery is a major challenge for any anesthetist-resuscitator. The success of such an intervention requires good preparation. Particular emphasis should be placed on the management of postoperative pain.

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