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RESEARCH ARTICLE

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State of the Art of Anesthetic Practice for Endouterine Evacuation in the South-East of DR Congo

Ibula S[1], Kalamo A[1], Iteke F[2]*, Bulabula M[3], Barhayiga B[3], Alumeti[2], Tsansya D[3], Cishugi R[3], Kalongo JJ[3], Pembe J[3], Sagboze S[2], Diyoyo P[3], Cikwanine JP[4], Mbusa H[3], Kigayi[3] and Sengeyi D[5]

[1]ISTM Bukavu Anesthesia-Resuscitation Section, CIMAC Hospital Center in Goma, DR Congo.
[2]Department of Anesthesia-Resuscitation, University of Lubumbashi, DR Congo.
[3]Department of Anesthesia-Resuscitation, University of Kinshasa, DR Congo.
[4]Anesthesia-Resuscitation Department, Panzi Hospital, DR Congo.
[5]Department of Gyneco-Obstetrics, University of Kinshasa, DR Congo.

ABSTRACT

Objective: Evaluate the different anesthetic practices in the management of incomplete abortions

Materials and Methods: Our study is descriptive in a retrospective approach on; in six hospitals in South Kivu in DR Congo and data were collected then entered then encoded in Microsoft Excel software (preliminary analysis of the data or statistical description of the variables) then they were analyzed in Epi Info software.

Results: The age group between 26 to 35 years was the most represented with an average of 30±7.5 years, the weight for the majority of them varied in the group from 60 to 69 or 60.4%, the majority came from the health zone and represented 94.6%, they were a priori housewives and Catholics and represented 55.4%. We noted narcosis or hyponosis (propofol + Fentanyl followed by Ketamine + Diazepam + Atropine) with a very high frequency at 97.5%. Many patients did not have any complications during their interventions and this would be estimated at a rate of 92.5%; all remaining complications represented 7.5%, i.e. respectively: Desaturation, hypotension and Vomiting. The factors correlated with morbidity and mortality were ASA class and complications with a significant difference because their P value is < 0.001.

Conclusion: The current recommendations in terms of ECP for incomplete abortions are respected in the hospital structures of South Kivu but as elsewhere, there is no predominant anesthetic technique hence the need to think about a more effective and more effective anesthetic technique. comfortable for patients and practitioners in terms of management of incomplete abortions than the techniques currently practiced.

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Introduction

Problematic

Abortion is the termination of pregnancy with expulsion of the product of conception before 180 days of pregnancy (i.e. 28 weeks of amenorrhea), the date from which the child born alive is presumed to be able to develop and live until a advanced age [1].

The World Health Organization recommends, for appropriate abortion care, the use of manual intrauterine aspiration (MVA) rather than instrumental uterine curettage, the former method being more effective and safer [2]. In France this painful procedure requires anesthesia. The rate of epidural anesthesia (APD) is around 60% in France, close to 85% in certain structures, which means that most of the time, this procedure can be carried out with the APD put in place during labor. The necessary level of analgesia is located around T10, which means that in the majority of cases an additional injection of 5-7 mL of 2% lidocaine is sufficient to carry out the procedure [3]. The absence of an epidural, spinal anesthesia can be immediately offered. Since spinal anesthesia exposes to hemodynamic instability, its implementation can only be considered if the hemorrhage is controlled and vascular filling started. Here too, it is not a question of performing a high T4 spinal anesthesia but a low spinal anesthesia. A dose of 5 mg of hyperbaric bupivacaine + 5 µg of sufentanil allows RU to be performed under good conditions. The puncture must be carried out in the lateral decubitus position, as the sitting position can decompensate

Contact: Iteke F
Department of Anesthesia-Resuscitation, University of Lubumbashi, DR Congo.

the hemodynamic situation. Experience shows that spinal anesthesia is often feasible for RU. However, it should be noted that this anesthesia is short, a single injection and that if the hemorrhage persists, a second anesthesia may be necessary to secondary treat the cause of this hemorrhage. The other pitfall of this technique is represented by coagulation disorders induced by hemorrhage. Although UR is early, the presence of coagulation disorders is rare [4].

If this hemorrhage is immediately abundant, with hemodynamic instability, in the presence of a strong suspicion of additional procedure such as arterial ligation or hemostasis hysterectomy, there is a consensus to carry out this anesthesia in "rapid sequence" mode with tracheal intubation (ASR). In this situation where hemodynamics are unstable, etomidate or ketamine are a better choice than thiopental [5]. According to WHO, Paracervical block: it is systematically required in the event of surgical abortion, unless the patient refuses. Use a local anesthetic such as lidocaine (lignocaine or xylocaine). Check beforehand for any known allergy to lidocaine. Inject four doses of 5 mL (20 mL total) of 0.5% lidocaine (without epinephrine) under the cervical mucosa at 2, 4, 8 and 10 hours, respectively, around the cervix (carefully avoid d 'inject into a blood vessel). 2 below provides a list of possible side effects and complications related to anesthesia, as well as ways to manage them [6]. Terms of anesthesia, general anesthesia or local anesthesia must be offered and the choice left to the patient (grade B recommendation). They offer the same safety and satisfaction to patients.

The recommended local anesthesia is paracervical local anesthesia (ALP). It consists of the injection of anesthetic (ropivacaine 7.5 or lidocaine 1% alone or mixed with 2 tsp of 8.4% sodium bicarbonate) into 2 or 4 points more than 1.5 cm deep. A 5% lidocaine spray can be carried out before the ALP. An alternative to ALP is the use of 2% lidocaine gel 30 to 45 minutes before the procedure. In the case of general anesthesia, the products used must be rapid in action and elimination, with a minimum of side effects. Furthermore, the use of halogens is considered to be a risk factor for significant blood depletion [7].

Women can choose the medical or surgical technique as well as the mode of anesthesia after receiving informed explanations from the prescribing doctor. To date, surgical abortion with general anesthesia is largely predominant: 81% of surgical abortions including 75% with general anesthesia. Significant disparities exist: medical abortion varies from one center to another from 0% to 60% and the rate of general anesthesia from 5% to 100% [8].

Burkina Faso Before the introduction of integrated management of abortion complications carried out in the national hospitals of Burkina Faso in 1997, the treatment of abortions was done by digital dissection (77%) and by curettage (22.70 /0). Only 0.3% of abortions were treated by Manual Intrauterine Aspiration (MVA) [9]. The manual aspiration technique is indicated for abortions occurring before 14 weeks of gestation [8]. This technique use suction to remove egg remains using a cannula. It can be performed without general anesthesia and requires at most two operators [9].

In the DRC, we did not find data relating to a possible inventory of the management of incomplete abortions and even less in South Kivu. Hence the importance of this study.

Objectives

Main Objective

Evaluate the different anesthetic practices in the management of incomplete abortions in South Kivu.

Specific objectives

- Describe the sociodemographic profile of patients treated for incomplete abortion by anesthesia services in South Kivu
- Determine the type of anesthesia used.
- Describe the different complications linked to the anesthetic practice used.
- Determine morbidity and mortality linked to anesthetic agents.
- Determine the places between morbidity and mortality and anesthesia.

Patients and Methods

Type and Period of Study

Our study was descriptive in a retrospective approach over a period of 12 months (01/01 to 31/12/2020.

Study Site

Provincial General Reference Hospital of Bukavu, General Reference Hospital of Panzi, Ciriri General Reference Hospital, Nyatende General Reference Hospital and Biopharm Hospital Center.

Sampling

We used registers and patient files to collect data for our work.

Target Population

Our target population was all women who underwent endouterine evacuation in our setting.

Inclusion criteria

Patients with postabortion hemostatic endouterine evacuation of childbearing age.

Variables

Independent

Age, Origin, Professions, Weight, Indication for surgery, Character of the intervention, Type of anesthesia, Duration of the intervention, Complication linked to anesthesia.

Dependent: This was the anesthesia technique for endouterine evacuation to be explained with regard to the independent variables.

Data Collection and Processing

The data was collected directly using Microsoft Excel software (preliminary analysis of the data or statistical description of the variables) then analyzed in Epi Info software to look for relationships and/or influences between the variables. The results are presented as frequency and average in tables.

Results

1. Sociodemographic characteristics: The majority age group was between 26 and 35 years old with the majority weight group between 60 and 69 kg. The majority of patients came from the health zones to which they belonged, were mainly housewives and Catholics.

2. Clinic and surgical risk: The majority of patients were ASA (American Society of Anesthesiology) I, normotensive or hypotensive, and had benefited from endoterin hemostatic evacuation for incomplete abortion under manual intrauterine respiration in the majority.

3. Type of anesthesia: The majority of patients had emergency endouterine evacuation under narcose propofol + Fentanyl followed by Ketamine + Diazepam + Atropine in terms of frequency for an intervention duration <30 min and post-evacuation monitoring mainly between 30 min and 1 hour.

Table 1: Distribution of patients according to type of intervention, type of anesthesia, drugs used, duration of intervention and duration of monitoring.

Intervention character	Frequency (n=280)	%
Urgent	268	95.7
Program	12	4.3
Type of anesthesia		
Narcosis	273	97.5
AL	7	2.5
Drugs used		
Ketamine+diazepam+atropine	91	32.5
Ketamine+propofol+diazepam		
+atropine	40	14.3
Lidocaine		2.5
Propofol+fenta 142	7	50.7
Duration of the intervention		
<30min	280	100.0
Monitoring duration		
5min-30min	22	7.9
30min-1h	208	74.3
Over 1h	50	17.9

4. Mortality, complications and transfer: The majority of patients did not present any complications but desaturation, hypotension and vomiting were the complications encountered. There were 1.4% deaths and no transfers abroad.

5. Correlation between mortality, Type of anesthesia and clinics: There was a correlation between mortality and ASA class as well as the occurrence of complications (Chi 2 = 279.00) P < 0.001. Furthermore, there is no correlation between the types of anesthesia used (Local Anesthesia and Narcosis) and mortality, outcome or occurrence of complications (Chi 2 = 0.103) P < 0.001.

Discussion

Sociodemographic Characteristics

Age

In our study we found that the majority age group was between 26 and 35 years for women who had undergone post-abortion hemostatic uterine evacuation, with an average age of 30 + or - 7.5 years. These results differ slightly from those of Ousmane O.K and Coll who in their study found a predominant age group between 20 and 25 years with an average of 31.5 years and age extremes between 14 and 49 years [10]. This also differs from the results of the relationship with the average age found by Padian in England which was 29 years and Pang and Chung in Hong Kong who found an average of 32 years and 29 years respectively [11].

The average ages seem to be almost the same everywhere because the reproductive age in female homosapiens sapiens is the same everywhere but the majority age group on the other hand depends on several parameters such as the study environment, habits and customs of different environments as well as the means available to attend hospital structures. This is how Ousmane, who worked in peripheral areas of Bamako, found a younger age group than ours to be predominant due to the fact that we are going to work in an urban environment overall.

Profession

Our results show that the majority of incomplete abortions took place among housewives at 93.2% while for induced abortions the majority were, at 59.1%, pupils and students. This corroborates with a study by Dale Fruntigton where similar results were found [12] as well as those of the Bourdima K. study in Bamako where he found 90% of illegal abortions among students [13]. This is explained among students but for housewives it is because they are the most sexually active because they are most often at home.

Origin

During our research we found that the majority of patients came from the health zone where they were treated at 94.6%. These results are different from those of a study carried out at the Point G University Hospital of Bamako which showed that patients came from different backgrounds with a clear predominance for the city of Bamako at 73.6% [14]. This apparent difference is probably due to the multicentricity of our study while their study was monocentric.

Clinic

- **ASA class:** Our study demonstrated that ASA I class was represented at 91.4%. Which corroborates with the results of Bourduna K. who found 85.46% of women in good general condition [13]. This is due to the fact that bleeding resulting from incomplete abortion prompts early consultation of women for fear of bleeding but also of the increasing female intellectual level.
- **Indication of evacuation:** In our study the indications for evacuation were mainly incomplete abortions at 85.4% which corroborates with Ousman O.K who found 93% for incomplete abortion [10] as well as Touré CA who found found 80% [15] and Coulibaly M. who found 84% for incomplete abortions [16]. The increased frequency of hospital abortions would be the most plausible explanation for these similarities in results.

Medical obstetric and anesthetic care.

- Gyneco-obstetric evacuation technique and nature of intervention. Our results show that MVA was the most used

evacuation technique for hemostatic evacuation at 97.5% and was done urgently. This is explained by the fact that MVA is the currently recommended technique in terms of internal evacuation for incomplete abortion [10] and by the urgency imposed by incomplete abortion following the resulting bleeding.

Type of Anesthesia

From our work it appears that narcosis (AG) was more practiced at 97.5% and most often with propofol and fentanyl (50.7%) followed by ketamine+Diazepam+Atropine (32.5%). On the other hand, Ousman O.K found that the AL (Paracervical Block) was in the majority at 65.1% [10]. This difference is explained by the fact that he worked in a university hospital and therefore in a specialized hospital where the paracervical block is controlled while we, the selected hospitals all combined, only have 3 Anesthesiologist-Resuscitators and narcosis doctors (AG) is still a technique recommended as much as the paracervical block and whose difference, in terms of effectiveness in the case of anesthetic management of abortion by MVA, is not statistically significant with the paracervical block in this indication. Bouruma K [13] found a majority of verbal anesthesia at 72% perhaps because he worked in a poorly equipped CRS Duration of evacuation and post-evacuation monitoring.

Our results showed that all our evacuations lasted less than 30 minutes and that the majority of patients were monitored for a time interval between 30 minutes and 1 hour at 74.3%. The duration of the act of evacuations as well as the post-evacuation surveillance seem not to have attracted the other researchers consulted because the latter focused more on the gyneco-obstetric aspect of the evacuations. Nevertheless, these are important parameters of the quality of care to be able to exploit in our following research.

Morbimortality and Outcome

Complications

In our study the most frequent complications recorded were Nausea-Vomiting at 3.4%, followed by desaturation at 2.5% and hypotension at 1.8%. Ousman O.K, on the other hand, found hemorrhage from DIC as the only complication at 0.9% [10]. This difference is due to the fact that he focused more on gynecological-obstetrical complications and we on Anesthesia and resuscitation complications.

Mortality

The mortality rate correlated with evacuations recorded was 1.4% during our study, these results differ from those of Ousman O.K [10] Touré CA [15] and Coulibaly M [16] who all found zero mortality. It is true that our low and zero percentages corroborate with the literature which shows that normally the mortality for PEC of abortions by MVA is low if it is done in good conditions on time and according to the recommended standards. The high mortality in our study could be due to the fact that we carried out our study in an environment with limited resources where the techniques of AL (Paracervical Block) are not mastered by practitioners who have no other choice than to turn to the second technique currently recommended in the case of Anesthesia for post-abortion MVA, which is narcosis (AG), which also has some risks, notably nausea and vomiting which can explode with Mendelson syndrome, especially since the patients are, most often, treated urgently and therefore in the context of a full stomach.

Clinical-Morbidity and Type of Anesthesia-Morbidity Correlation

Clinical – morbidity and mortality

The results of our study show a statistically significant correlation between mortality and the patient's ASA class as well as the presence of a complication in the patient $p < 0.001$. These results differ from those of Ousmane OK [10] Touré CA [15] and Coullibaly M [16] who did not make a correlation in relation to mortality because they had no case of death in their respective studies, this which explains this difference.

Type of Anesthesia – Morbimortality

According to our results, the occurrence of complications or mortality was not statically correlated with the type of anesthesia among the two types of anesthesia used in this study AG (Narcosis) and AL (Paracervical block) because $p> 0.05$. This correspond to the basis that emerged from the WHO recommendation on the ECP of MVA according to which the 2 techniques are recommended because they have no significant differences [15]. Thus, an anesthetic technique which proves its effectiveness on one of the two techniques (AG (Narcosis) or AL (Paracervical Block)) and better on both, would therefore be the technique of choice to be recommended in the case of MVA for PEC d incomplete abortions. Technique to be recommended for this purpose in replacement of current recommendations related to anesthetic techniques for MVA to improve it as far as possible.

Conclusion

The current recommendations in terms of ECP for incomplete abortions are respected in the hospital structures of South Kivu but as elsewhere, there is no predominant anesthetic technique hence the need to think about a more effective anesthetic technique and comfortable for patients and practitioners in terms of management of incomplete abortions than the techniques currently practiced. In view of these results, we suggest other prospective descriptive experimental studies in order to show the type of anesthesia adapted for endouterine evacuations in our environment.

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