Research Article

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Anesthetic Management of Labial and Palatin Slots during a Humanitarian Mission at Matlaboul Fawzaini Hospital of Touba

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Citation: Denis BARBOZA, et al (2017) Anesthetic Management of Labial And Palatin Slots during a Humanitarian Mission at Matlaboul Fawzaini Hospital of Touba. Int J Anes & Rela. 1:1, 08-10

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Received August 18, 2017; **Accepted** September 27, 2017; **Published** September 29, 2017.

Abstract

Cleft lip and palate surgery in Senegal is often carried out on humanitarian missions by indigenous specialists supported by humanitarian agencies. Diagnostic and therapeutic delays often linked to poverty and the scarcity of information on these deformities remain among the major challenges. The anesthetic management is confronted with a non-negligible risk of difficult intubation and respiratory complications. The objective of this study was to report the epidemiological, therapeutic and evolutionary data of this first experiment of the anesthetic management of nasolabial slits in the context of a humanitarian mission at the Matlaboul Fawzaini hospital in Touba. Twenty-six patients were scheduled for the mission. Surgery was performed on twenty-four patients and two patients were recused because of a time problem. Sixteen were female and eight were male. The median age was 42 months. The average weight was 18.6 kg. Eleven patients (45.83%) had a cleft lip, eight (33.33%) had cleft palate and five (20.83%) had cleft lip and palate. No associated malformation was found in our patients. Hemoglobin and blood crasis were normal in all of our patients. Two patients had difficult intubation criteria. Fourteen patients (58.33%) were of ASA class 1 and 10 (41.67%) were of ASA class 2. We performed an inhalation induction in 71% of patients. As a surgical gesture, 12 cheiloplasties, 9 palatoplasties and 3 cheiloplasties with palatoplasties were carried out. No incident occurred intraoperatively. The mean duration of surgery was 85.87 min. No complications occurred during extubation or postoperatively. All patients had systemic multimodal analgesia (paracetamol and niflumic acid or tramadol) in addition to a maxillary or infra-orbital analgesic block. The average values of pain evaluation by the CHEOPS scale were of 6, 6, and 5 respectively at the awakening, at the 1st hour, and then at the 2nd hour and finally at the 3rd hour.

Introduction

Cleft lip or cleft lip and palates show an abnormality of fusion and migration of the facial buds in the first fetal weeks. This lack of closure, which can be unilateral or bilateral, occurs in three different forms: a cleft lip isolated in 25% of cases, a cleft palate isolated in 25% of cases or a cleft lip and palate in 50% of cases [1]. In Dakar, in a retrospective study of nasolabial clefts, Sankalé found 44.9% of the simple cleft lip and 47.8% of cleft lip and palate [2]. Cleft lip and palate surgery in Senegal is often carried out on humanitarian missions by indigenous specialists supported by humanitarian agencies. Diagnostic and therapeutic delays often linked to poverty and the scarcity of information on these deformities remain among the major challenges. Anesthetic management is confronted with a non-negligible risk of difficult intubation and respiratory complications increased by the young age of the pa-

tients. The objective of this study was to report the epidemiological, therapeutic and evolutionary data of this first experiment of anesthetic management of nasolabial clefts at the Matlaboul Fawzaini hospital in Touba, within the framework of a humanitarian mission.

Patients and Methods

Populations had been informed of the mission by posters and press 2 months before it was held (14-21 October). Patients were initially selected by the surgeon after a first consultation within the limit of the number of planned cures (30 patients) as long as they presented a cleft lip or cleft lip and palate without other pathology likely to increase the risk of complication. They were subsequently seen in anesthesia consultation by a resuscitation anesthesiologist, where a clinical examination was carried out in all patients with a

biological and/or radiological assessment depending on the terrain. After this consultation, operable patients were retained from the outset for the mission and those for whom their condition required preparation were referred to a specialist. All patients underwent a pre-anesthetic visit the day before surgery in search of a new symptomatology that could delay surgery. In the operating room, all patients received standard monitoring (noninvasive pressure, electrocardiograph, and pulse oximetry) and peripheral venous access. In toddlers and young children, we performed an inhalation induction and then we set up the venous tract before intubation. After surgery, all patients had received multimodal analgesia prior to extubation: systemic analgesia (paracetamol and anti-inflammatory) and an analgesic block with bupivacaine 0.25% (maxillary or infra-orbital block depending on the surgical procedure). Postoperative pain intensity was evaluated at H0, H1, H3, and H6 after extubation by the CHEOPS scale or EVA.

Results

A total of 26 patients were scheduled during the mission. Twenty-four patients were operated and only two patients were recused because of a time problem. Among these patients, 16 were female and 8 male (sex ratio = 0.5). The median age was 42 months with extremes of 1 month and 30 years. More than 70% of patients were under 5 years of age. The mean weight of the patients was 18.6 kg with extremes of 3 and 72 kg. The median weight was 12.5kg. Eleven patients (45.83%) had cleft lip, 8 patients (33.33%) had cleft palate and 5 (20.83%) had cleft lip and palate. No associated malformation was found in our patients. All patients had normal hemoglobin. We did not find any blood vessel disorders. Two patients had difficult intubation criteria. Two patients required preoperative medical management (one with severe growth retardation and one with bronchopneumonia). Fourteen patients (58.33%) were of ASA class 1 and 10 (41.67%) of ASA class 2. Inhalation induction was performed in 71% of patients and the remaining 29% had an intravenous induction. As a surgical gesture, we realized: 12 cheiloplasties, 9 palatoplasties and 3 cheiloplasties with palatoplasties. No incident occurred intraoperatively. The mean duration of the surgery was 85.87 min with extremes of 30 min and 235 min. No complications occurred during extubation or immediate postoperative treatment. All patients had systemic analgesia (paracetamol and niflumic acid or tramadol) in addition to a maxillary or infra-orbital analgesic block. The results of the pain evaluation by the CHEOPS scale are shown in the table below.

Table 1: Pain evaluation by the CHEOPS scale

Hour	Extremes	Mean
In the morning	[4; 11]	6
At first hour	[5; 10]	6
At third hour	[5; 10]	5

Comments

Lipo-palatal cleft surgery in our context is often performed during humanitarian missions as reported in Sankalé's work. There are several reasons for this, in particular, poverty, lack of specialists and population's lack of information on the subject. The median age of patients in care was 42 months, higher than that of 24 months found by Sankalé [2]. This difference main explanation would be the places where these studies were carried out: Sankalé carried it out in a public hospital in the heart of the capital, while ours was carried out in rural areas more than 180 km from the capital with a more high prevalence of poverty, more delay in consultation and a shortage of specialists. In his study at the Plastic Surgery Department of the University Hospital of Grenoble, Brix [3] reported an average age of 4.9 months (median of 5 months) for cleft lip surgery and 8.9 months (median of 9 months) for the treatment of cleft palates. This is explained by the diagnostic precocity often made in antenatal but also the argument of some specialists who affirm that the earlier the surgery is performed, the better the healing will be with a real gain in speech and orthodontic terms [4, 1, 5]. None of our patients had an associated malformation because of the fact that this was a non-screening potential criterion. In the literature, most studies report associated malformations of varying incidence and severity. Thus, Brix [3] reported on 93 patients, 15.05% had an associated malformation (7 Pierre Robin syndromes, Inter Ventricular Communications, West syndromes among others); Sankalé reported a rate of 10.5% [2]. All patients were operated under general anesthesia with halothane inhalation induction in 79% of cases and an intravenous induction for the others. These results are inconsistent with data from the literature where inhalation induction often occurred with sevoflurane [3, 6, 7]. This is due to the presence of a significant number of grown children and even of an adult, in whom a venous pathway could be placed before induction with his full cooperation, in our study population. The period of induction for this surgery remains crucial because of a real risk of difficult intubation: Cailleux [6] reported 1 case out of 42 patients (2.3%), Brix [3] reported 5 cases out of 93 (5, 3%). In our study, we had no difficult intubation despite difficult intubation criteria in two of our patients. We did not find any intraoperative or postoperative complications, certainly related to the absence of other associated malformation in our patients and a higher median age. In this regard, the frequencies found in the literature are very different but with a predominance of respiratory complications [3, 6, 8, 9]. In contrast to fairly painless surgery for cleft lips, the surgery for cleft palates is very painful [8, 10]. Most authors prefer to use morphine or agonists for postoperative analgesia [3, 6]. At the end of the procedure, we performed an infra-orbital block or a maxillary block by supra-zygomatic route with fewer complications [11, 12] in addition to systemic analgesia providing good analgesia to our patients with a morphine saving.

Conclusion

The cleft lip and palate are not exceptional malformations in our context. They are mostly confronted with a backlog in the management because they are often waiting for humanitarian missions due to the lack of financial resources. Their anesthetic management can be difficult because of the complications that are common, especially respiratory ones.

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