

Research Article

Report on The Management of Labiopalatina Slots Following the Smile Train Program in Mali

Traore H¹, Garango A¹, Traore S¹, Samake D², Kamissoko K³, Diarra B⁴, Sangara F¹, Maiga M⁵, Camara F⁶, Mariko D⁷, Diabate K⁸, Kane Ast⁹, Dicko. H¹⁰, Benateau. H¹¹¹Department of stomatology and maxillofacial surgery CHU-CNOS in Bamako²Health Center of Commune V³Department of Odontology, Military Hospital of Timbuktu⁴Department of Stomatology and Maxillofacial Surgery CHU-Kati⁵Reference Health Center of the Commune VI⁶Liberal Nutritionist - Bamako-MALI⁷Dental Group - Bamako-MALI⁸Radiotherapy Department, Mali Hospital⁹Department of Odontology, Military Hospital of Bamako¹⁰Anesthesia and Resuscitation Department UHC G –Bamako¹¹Department of Stomatology and Maxillofacial Surgery University Hospital of Caen

*Corresponding Author

Dr. Hamady TRAORE

Abstract: Cleft lip and cleft palate are a major problem in developing countries where there are more than one million children with unrepaired clefts. These clefts are origins of the functional and esthetic disorders, making healthcare difficult because they are considered by the majority of the population, a curse in the Malian population and these parents prefer to hide their sick children from the people's judgemental stares. This situation makes diagnosis and appropriate treatment difficult. Smile Train, an organization based in New York, USA has made it its primary mission to provide cleft born children with the same chances in life as the ones born without, by giving free cleft surgery to hundreds of thousands of poor children in underdeveloped countries. We carried out a retrospective study showing the balance sheet of the management of the slots according to the Smile Train program. A total of 191 patients were managed during our study period with an average age of 12 years with a sex ratio of 1.08. Almost all of the interventions have been supported and funded by the Smile Train program.

Keywords: Assessment, Support, cleft lip; Cleft palate, Smile Train, Mali.

INTRODUCTION

Unilateral or bilateral cleft palate or cleft palate (FLP) clefts and isolated cleft palate (FP) are the most common craniofacial malformations in men.

They have the same prevalence in the general population as trisomy 21, ie about 1/700 births, and this prevalence varies according to the geographical origin of 1/300 births for Asians to 1/2500 births for Africans (Martinelli, M. *et al.*, 2001; Cox, T.C. 2004).

They originate from a defect in the coalescence of the facial buds during embryogenesis,

more particularly during the formation of the primary palate and / or the secondary palate. There are two main clinical forms: FP and single- or bilateral FLPs, which account for 70-80% of cases.

These malformations of the face appear most often in non-syndromic form. They can be familial or isolated but also be a sign of a syndrome whose origin is a genetic mutation (Murray, J. C. *et al.*, 1997; Mossey, P. 2007).

Mange *et al.*, (2011) report that orofacial clefts are associated with other congenital anomalies,

Quick Response Code



Journal homepage:

<http://www.easpublisher.com/easjdom/>

Article History

Received: 05.07.2019

Accepted: 29.07.2019

Published: 24.08.2019

Copyright © 2019 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

DOI: 10.36349/easjdom.2019.v01i04.006

although the frequency and type of malformations associated with them vary considerably between studies. However, about 70% of orofacial clefts are associated with other physical or developmental abnormalities (Mange *et al.*, 2011).

The treatment of these malformations involves several medical and paramedical specialties and does not stop, sometimes, until adulthood. The consequences of LPC (labiopalatine clefts) are functional (phonation, hearing, swallowing, chewing and ventilation being altered) but also aesthetic and psychological (self-image perception, relational disorders) (Grollemund, B. *et al.*, 2010).

Thus, the objective of this study was to present the results of the management of cleft lip and/or palate by the Smile train program in Mali.

MATERIALS AND METHODS

Our study which took place at the NGO (Non-Profit Organisation) Horizon Vert was retrospective, analytical and descriptive, ranging from June 2010 to March 2013. We have listed 191 cases of cracks supported during this period. We included in the study any patient of age who was operated for labiopalatine cleft and recorded on the Smile Train program, and didn't include any patient who was not operated or registered on the Smile Train program.

Variables taken into account were, among others, age, sex, location, type of cleft, type of intervention, surgical techniques and types of anesthesia.

The data were collected and stored on a standard questionnaire developed for this purpose. Data analysis was performed on the SPSS 20 software.

RESULTATS

Table I: Distribution of patients according to sex.

Sex	Effective	Percentage %
Male	92	48,17
Female	99	51,83
Total	191	100

Females accounted for 51.83% of our sample with a sex ratio of 1.08.

Table II: Distribution of patients according to age group

Age range	Effective	Percentage %
1 month to 6 month	21	10,99
7 month to 11 month	54	28,27
12 month to 2 years	37	19,37
3 years to 10 years	42	21,99
≥ 11 years	37	19,37
Total	191	100

The age range of 7 months to 11 months accounted for 28.27% of cases.

Table III: Distribution of patients according to the type of slit

Slot type	Effective	Percentage %
Left unilateral cleft lip	57	29,84
Right unilateral cleft lip	28	14,66
Left unilateral cleft lip and palate	32	16,75
Right unilateral cleft lip and palate	19	9,95
Bilateral cleft lip	13	6,81
Bilateral cleft lip and palate	21	10,99
Cleft palate	19	9,95
Submucosal slot	2	1,05
Total	191	100

The unilateral left cleft lip accounted for 57 cases, ie 29.84%.

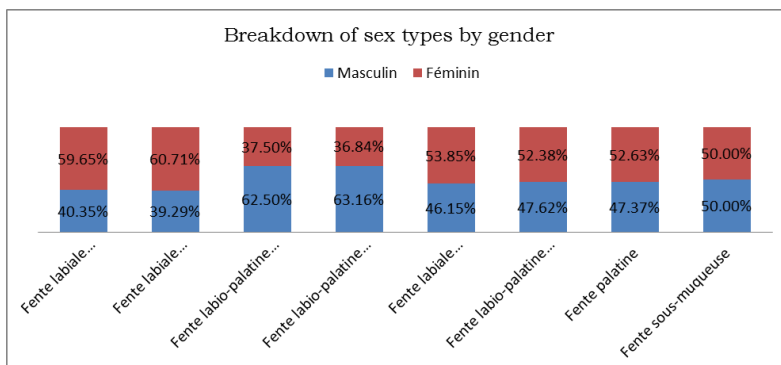


Figure I: Distribution of patient size according to sex and type of cleft.

The right unilateral cleft lip accounted for 60.71% for the female gender whereas the unilateral left cleft lip accounted for 62.50% in the males.

Table IV: Distribution of patients by family history

Family history	Male	Female	Total
Direct	1	1	2
indirect	0	0	0
Total	1	1	2

In this study, 2 patients had a direct family history of cleft including 1 male and 1 female

Table V: Distribution of patients according to the associated malformations by sex patients with associated malformations

patients with associated malformations	Male	Female	Total (M+F)	Fréquence %
Yes	9	13	22	11,52
No	83	86	169	88,48
Total	92	99	191	100

In this study, 9 male and 13 female patients, a total of 22 had an associated malformation of approximately 11.52% of the Total population.

Table VI: Distribution of patients according to the type of Anesthesia

Type of anesthesia	effective	Percentage %
General anaesthesia	189	98,95
Local anesthesia	2	1,05
Total	191	100

General anesthesia was the most used with 98.95%

Table VII: Distribution of patients by type of surgery

Type of surgery	Effective	Percentage %
First repair of the unilateral lip	119	62,30
First repair of the bilateral lip	25	13,09
First repair of the palace	35	18,32
Lip revision	8	4,19
Second repair of the palace	2	1,05
fistula repair	1	0,52
alveolar bone graft	0	0,00
Other	1	0,52
Total	191	100

The first repair of the lip was the most representative of the workforce with 62.30%.

Table VIII: Distribution of patients by Statistics

Interventions	Effectives	Accepted	rejeted	Percentage %
Downloaded	191	184	7	96,46
Returns rejected cases	7	7	0	3,54
Downloaded Totals	198	191	7	100

96.46% of the downloaded interventions were accepted

DISCUSSION

The epidemiological aspect of the labiopalatine clefts in our environment presents

different points of divergence and convergence with the data of literature.

In this series, the average age was 12 years out of a total of 191 patients; with extremes ranging from 5 months to 52 years, Ouane F found an average age of 5.6 years out of a total of 61 patients with extremes ranging from 0 to 27 years (Ouane, F. 2010-2011), Diombana M.L. found the extremes between 1 and 34 years on a staff of 39 patients (Diombana, M.L., *et al.*, 1997), Magassa O. found an average age of 1.325 with extremes ranging from 0 to 49 years (Magassa, O. 2005), Diakite C.O. found an average age of 2.7 years with extremes ranging from 0 to 14 years (Diakite C. O. 2005-2006). In our series, the average age is higher and the extreme age is 52 years old.

In our series, the sex ratio was 1.08 for females, 51.83% females and 48.83% males.

Our results are consistent with those of authors in southern Nigeria where Omo-Aghoja *et al.*, [6] found 48.5% of males versus 51.5% of females, while other authors found higher male frequencies in their series, in Tanzania, Mange *et al.*, (2011) reported that males were more affected than females with 52.9% and 47.1% respectively.

Regarding the location of cleft lips, Mange *et al.*, (2011) found that in the majority of cases, the left-sided cleft was the most frequent (43.7%) followed by the right side (28.8%), and lastly the bilateral forms (18.3%). Our study remarked that the left unilateral cleft lip represented a number of 57 cases is 29, 84% of our study. However, Omo-Aghoja *et al.*, (2010) found an equal distribution of unilateral left and right lunates, whereas Ouane F. found a left unilateral location at 34.5%, the highest frequency in her study (Ouane, F. 2010-2011).

In our study, 22 patients had an associated malformation of approximately 11.52% of the total workforce. Only two patients underwent local anesthesia. Indeed, given the context, local anesthesia was reserved for elderly people whose health status and resistance allowed so. We achieved more than 96% success compared to surgeries performed and accepted by Smile Train, for other 4% of fail, the reason was most often due to a problem of incomplete files or downloaded photos this being non-related to the surgery.

CONCLUSION

Labiopalatine clefts should be considered the same as any other medico-surgical pathologies by caregivers and by the population. The cleft palate requires effective multidisciplinary management to cope with both aesthetic and functional deficits. The care must meet a protocol according to the availability

of the technical platform; the active participation of organizations such as Smile Train is a very beneficial contribution in the management of this condition and thus offers the children with clefts and their parents the gift of a smile, allowing a social integration of these children.

REFERENCES

1. Martinelli, M., Scapoli, L., Pezzetti, F., Carinci, F., Francioso, F., Baciliero, U., ... & Tognon, M. (2001). Linkage analysis of three candidate regions of chromosome 1 in nonsyndromic familial orofacial cleft. *Annals of human genetics*, 65(5), 465-471.
2. Cox, T.C. (2004). Taking it to the max: the genetic and developmental mechanisms coordinating midfacial morphogenesis and dysmorphology. *Clin Genet*, 65, 163-76.
3. Murray, J. C., Daack-Hirsch, S., Buetow, K. H., Munger, R., Espina, L., Paglinawan, N., ... & Magee, W. (1997). Clinical and Epidemiologic Studies of Cleft up and Palate in the Philippines. *The Cleft Palate-Craniofacial Journal*, 34(1), 7-10.
4. Mossey, P. (2007). Epidemiology underpinning research in the aetiology of orofacial clefts. *Orthod Craniofacial Res*, 10, 114-20.
5. Manyama, M., Rolian, C., Gilyoma, J., Magori, C. C., Mjema, K., Mazyala, E., ... & Hallgrímsson, B. (2011). An assessment of orofacial clefts in Tanzania. *BMC Oral Health*, 11(1), 5.
6. Omo-Aghoja, V. W., Omo-Aghoja, L. O., Ugboko, V. I., Obuekwe, O. N., Saheeb, B. D. O., Feyi-Waboso, P., & Onowhakpor, A. (2010). Antenatal determinants of oro-facial clefts in Southern Nigeria. *African health sciences*, 10(1).
7. Grollemund, B., Galliani, E., Soupre, V., Vazquez, M-P., Guedeney, A., & Danion, A. (2010). L'impact des Fentes Labio-Palatines sur les relations parents-enfant. *Arch Pediatr*, 17,1380.
8. Ouane, F. (2010-2011). Fentes labiales et labio-palatines au centre hospitalier universitaire d'odonto-stomatologie de Bamako ; FMPOS ; thèse de médecine ; Bamako, 57, 146.
9. Diombana, M.L., *et al.*, (1997). Fentes labiales et labio-palatines au Service de Stomatologie de Kati (République du Mali) à propos de 39 cas. *Méd. d'Afrique Noire*, 44(12), 661-663.
10. Magassa, O. (2005). Approche épidémiologique sur les fentes labiales et labio-palatine dans le service de stomatologie et de chirurgie maxillo-faciale l'hôpital de Kati : 77 cas. Thèse Méd. Bamako, 43, 77.
11. Diakite C. O. (2005-2006). Les fentes labio-palatines à l'hôpital Gabriel Touré et à l'hôpital mère enfant le Luxembourg Thèse de médecine Bamako 104.