



Incidence of complications during the initial years of formation of a cleft lip and palate service

Incidência de complicações durante os anos iniciais de formação de um serviço de fissuras labiopalatinas

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■ ABSTRACT

Introduction: Cleft lip and palate is the most common congenital craniofacial malformation. Difficulties in eating, speaking, and hearing are common in these patients, requiring multidisciplinary treatment, which makes it difficult to create and maintain specialized services. The diversity of classifications and the large number of surgical techniques used in primary surgeries (cheiloplasty and palatoplasty) make it difficult to compare epidemiological data and complications between services, and there is a lack of studies evaluating newly created specialized centers for cleft lip and palate. **Method:** A prospective cohort study was carried out with patients diagnosed with cleft lip and palate who underwent primary surgical procedures at the Hospital de Clínicas of the Universidade Federal de Uberlândia, between July 2017 and February 2023. Patients under 18 years of age with follow-up were included. post-operative period of at least 3 months. **Results:** 79 patients participated in the study, who underwent 115 primary surgeries (54 cheiloplasties and 61 palatoplasties). 11 complications were reported in this period: 2 dehiscences in cheiloplasty (3.70%), 1 hypertrophic scar in cheiloplasty (1.85%), 6 fistulas in palatoplasty (9.83%) and 2 dehiscences in palatoplasty (3.28%). The incidence of complications was 9.56% when analyzing the total number of surgeries, being 5.55% in patients undergoing cheiloplasty and 13.11% in patients undergoing palatoplasty. **Conclusion:** The incidence of complications during the initial years of structuring the service was similar to other studies in the literature.

Keywords: Cleft palate; Cleft lip; Craniofacial abnormalities; Fistula; Postoperative complications.

■ RESUMO

Introdução: A fissura labiopalatina é a malformação congênita craniofacial mais comum. Dificuldades na alimentação, fala e audição são comuns nestes pacientes, necessitando de tratamento multidisciplinar, o que dificulta a criação e manutenção de serviços especializados. A diversidade de classificações e o grande número de técnicas cirúrgicas utilizadas nas cirurgias primárias (queiloplastia e palatoplastia) dificultam a comparação de dados epidemiológicos e de complicações entre os serviços, existindo carência de estudos avaliando centros especializados em fissuras labiopalatinas recém-criados. **Método:** Foi realizado estudo do tipo coorte prospectiva com pacientes com diagnóstico de fissura labiopalatina submetidos a procedimentos cirúrgicos primários, no Hospital de Clínicas da Universidade Federal de Uberlândia, entre julho de 2017 e fevereiro de 2023. Foram incluídos pacientes menores de 18 anos com acompanhamento pós-operatório de pelo menos 3 meses. **Resultados:** Participaram do estudo 79 pacientes, que foram submetidos a 115 cirurgias primárias (54 queiloplastias e 61 palatoplastias). Foram relatadas 11 complicações neste período:

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Article received: September 14, 2023.
Article accepted: February 4, 2024.

Conflicts of interest: none.

DOI: 10.5935/2177-1235.2024RBCP0873-EN

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2 deiscências em queiloplastia (3,70%), 1 cicatriz hipertrófica em queiloplastia (1,85%), 6 fistulas em palatoplastia (9,83%) e 2 deiscências em palatoplastia (3,28%). A incidência de complicações foi de 9,56% quando analisado o total de cirurgias, sendo 5,55% nos pacientes submetidos a queiloplastia e 13,11% nos pacientes submetidos a palatoplastia. **Conclusão:** A incidência de complicações durante os anos iniciais de estruturação do serviço foi semelhante a outros estudos da literatura.

Descritores: Fissura palatina; Fenda labial; Anormalidades craniofaciais; Fístula; Complicações pós-operatórias.

INTRODUCTION

Cleft lip and palate is the most common congenital craniofacial malformation, with an estimated prevalence of 1 case in every 700 live births. Feeding difficulties, speech changes, and hearing disorders are common in these patients, making appropriate multidisciplinary treatment generally involving plastic surgery, otorhinolaryngology, speech therapy, physiotherapy, orthodontics, nursing, and psychology. The need for different specialties makes it difficult to create and maintain specialized services in this condition^{1,2}.

The diversity of classifications and the large number of surgical techniques used in primary surgeries (cheiloplasty and palatoplasty) make it difficult to compare epidemiological data between specialized services and assess the incidence of complications associated with these surgeries.

Although many studies have evaluated the incidence of complications in patients undergoing cheiloplasty and palatoplasty, there is little work carried out in specialized centers with shorter creation times³⁻⁹.

OBJECTIVE

The objective of this work was to evaluate the epidemiological profile and the incidence of complications in patients with cleft lip and palate undergoing surgical correction at the Hospital de Clínicas of the Universidade Federal de Uberlândia (HC-UFU), in Uberlândia-MG, during the initial years of structuring the treatment service for patients with cleft lip and palate (composed of a plastic and craniomaxillofacial surgeon, otorhinolaryngology team, speech therapist, dentist and residents in craniomaxillofacial surgery and otorhinolaryngology).

MATERIALS AND METHODS

A prospective cohort study was carried out with patients diagnosed with cleft lip and palate who underwent primary surgical procedures, by the same surgeon, accompanied by residents in craniomaxillofacial surgery, at HC-UFU, from July 2017 to February 2017. 2023.

Patients under 18 years of age who underwent primary surgical procedures (cheiloplasty and/or palatoplasty) and who had postoperative follow-up of at least 3 months during the analyzed period were included.

Patients aged 18 years or older and undergoing other surgical procedures were excluded from the study.

The following data was collected: date of birth, date of surgery, classification of the type of cleft lip and palate (using Veau's classification), type(s) of surgery(s) performed, and complications associated with the procedures. Parents or guardians signed an informed consent form before surgery, agreeing with the surgical procedures and authorizing the use of data. This study was approved by the institution's Research Ethics Committee, under number 57032022.5.0000.5152.

Exclusively descriptive statistics were used for epidemiological characterization and determination of the incidence of complications.

RESULTS

During the period analyzed, 79 patients diagnosed with cleft lip and palate were monitored and underwent 115 primary surgeries (54 cheiloplasties and 61 palatoplasties).

Among the patients followed, 15 patients (18.98%) had Veau classification type I, 12 patients (15.18%) had type II, 31 patients (39.24%) had type III, and 21 patients (26.58%) type IV (Table 1).

The techniques used in cheiloplasty were Fisher in 35 cases (64.81%), Mulliken (bilateral) in 2 cases (3.70%), and lip adhesion in 15 cases (27.78%) (Table 2).

The techniques used in palatoplasty were: Bardach (two flaps) in 38 patients (62.29%), Von Langenbeck in 20 patients (32.78%), and Furlow in 3 patients (4.92%). In 5 patients (8.19%) the vomer flap was associated (Table 2).

Eleven complications were reported in this period: 2 dehiscences in cheiloplasty (3.70%), 1 hypertrophic scar in cheiloplasty (1.85%), 6 fistula in palatoplasty (9.83%), and 2 dehiscences in palatoplasty (3.28%) (Table 3).

The incidence of complications was 9.56% when analyzing the total number of surgeries, 5.55% in patients undergoing cheiloplasty, and 13.11% in patients undergoing palatoplasty.

DISCUSSION

This work evaluated the epidemiological profile and the incidence of complications in patients with CLP undergoing primary surgery in the initial years of structuring the cleft lip and palate service at HC-UFU.

The comparison of the incidence of total complications is limited in the literature because studies consider different occurrences as complications (some studies consider, for example, the presence of

fever in the postoperative period as a complication). Despite the difference in criteria, our incidence of 9.56% is lower than the work carried out by Gatti et al.¹⁰, which presented an incidence of 14.16%.

Regarding cheiloplasty, recent studies show the presence of complications ranging between 4.4% and 40%, while we present 5.55%^{3,6,7,11}. The presence of dehiscence in cheiloplasty varies between 3.2% and 15.4% of patients, while we observed it in 3.70%^{3,11}. Hypertrophic scarring in 14.9%, while in our patients it was 1.85%¹¹.

In palatoplasty, the total incidence of complications varies greatly in recent literature (15.8% to 70%); our incidence was 13.11%⁵⁻⁷. Fistula development occurs in 2.4% to 28% of patients and, in our service, the incidence was 9.83%^{4,5,11-17}. The presence of dehiscence in palatoplasty varies between 0.7% and 4%, while we present 3.28%^{5,12,18}.

Recent studies show that surgical volume (above 25 surgeries/year) as well as the surgeon's experience influence the reduction of complications in patients with cleft lip and palate^{18,19}.

Our work has important limitations (number of patients due to the recent structuring of the service, only one surgeon with experience in cleft lip and palate, difficulty in comparing with other studies due to the variation in diagnostic criteria and complications, and variability of surgical techniques used in each service) and, despite these limitations, the incidence of complications was similar to studies in already consolidated centers.

CONCLUSION

Our study showed an incidence of complications similar to that of other established centers and long-term follow-up is necessary to assess the possibility of reducing complications with increased surgical volume and greater experience.

COLLABORATIONS

JMOS Analysis and/or data interpretation, Conception and design study, Final manuscript approval, Project Administration, Realization of operations and/or trials, Supervision, Writing - Original Draft Preparation, Writing - Review & Editing.

VFG Analysis and/or data interpretation, Data Curation, Methodology, Realization of operations and/or trials, Writing - Review & Editing.

FB Analysis and/or data interpretation, Data Curation, Methodology, Realization of operations and/or trials, Writing - Original Draft Preparation, Writing - Review & Editing.

Table 1. Epidemiological data on patients with cleft lip and palate.

Classification (Veau)	Number of cases	Percentage
Type 1	15	18.98%
Type 2	12	15.18%
Type 3	31	39.24%
Type 4	21	26.58%
Total	79	

Table 2. Types of surgeries performed.

Techniques surgical	Number of cases	Percentage
Cheiloplasty		
Fisher	35	64.81%
Lip adhesion	17	27.78%
Mulliken (bilateral)	2	3.70%
Total	54	
Palatoplasty		
Bardach (two flaps)	38	62.29%
Von Langenbeck	20	32.78%
Furlow	3	4.92%
Total	61	

Table 3. Incidences of complications.

Complications	Number of cases	Percentage
Cheiloplasty		
Dehiscence	2	3.70%
Hypertrophic scar	1	1.85%
Total	3	5.55%
Palatoplasty		
Fistula	6	9.83%
Dehiscence	2	3.28%
Total	8	13.11%

JCK Conceptualization, Data Curation, Investigation, Methodology, Realization of operations and/or trials, Writing - Review & Editing.

LAS Conception and design study, Data Curation, Investigation, Methodology, Realization of operations and/or trials, Writing - Review & Editing.

LACA Data Curation, Methodology, Realization of operations and/or trials, Writing - Original Draft Preparation, Writing - Review & Editing.

LGE Conception and design study, Data Curation, Investigation, Methodology, Realization of operations and/or trials, Writing - Original Draft Preparation, Writing - Review & Editing.

FCAS Analysis and/or data interpretation, Data Curation, Investigation, Methodology, Realization of operations and/or trials, Writing - Original Draft Preparation.

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