International Journal of Research in Medical Sciences
*Azcue AFA et al. Int J Res Med Sci. 2023 Dec;11(12):xxx-xxx*
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20233541

**Original Research Article**

# Experience of the cleft lip and palate clinic at the hospital general de México 2017-2023

**Arsenio F. Araujo Azcue[1]*, Ricardo R. Peña González[2], Claudia P. Salazar-Del-Pino[1], Nadia B. Quiroz U.[1], Silverio Tovar Z.[1]**

[1]Department of Plastic and Reconstructive Surgery, Hospital General de México, Mexico-City, México
[2]Department of General Surgery, Hospital General de México, Mexico-City, México

**Received:** 27 October 2023
**Accepted:** 11 November 2023

***Correspondence:**
Dr. Arsenio F. Araujo Azcue,
E-mail: arsferarazcue@gmail.com



## ABSTRACT

**Background:** The care of cleft lip and palate patients at the general hospital of Mexico has nearly 70 years of experience.
**Methods:** An observational study of a 7-year cohort of resolved cases of cleft lip and palate by the plastic and reconstructive surgery service of the general hospital of Mexico (2017-2023) was conducted.
**Results:** The 121 patients were recorded, with 47 palatoplasties, 44 primary cheiloplasties, 24 secondary cheiloplasties, and 11 veloplasties performed. All patients are evaluated by a multidisciplinary team composed of plastic surgery, dentistry, clinical nutrition, speech therapy, audiology, genetics, and psychology to determine a comprehensive treatment plan.
**Conclusions:** The data reported by the cohort in this work aligns with international reports. The frequency of cases decreased due to the COVID-19 pandemic, but has increased in recent years.

**Keywords:** Cleft lip, Cleft palate, Cleft lip and palate sequelae

## INTRODUCTION

Cleft lip and palate have a global incidence of 1 in every 500 births, making it the craniofacial malformation with the highest worldwide incidence. According to data recorded by the epidemiological surveillance system for neural tube and craniofacial defects (SINAVE) in 2021, the incidence of cleft lip and palate was 28.7 cases per 100,000 live births.[1] Cleft lip and palate pose a challenge not only for plastic surgeons but also for multidisciplinary management.[2] The first signs of the cleft lip and palate clinic at the hospital general de Mexico (HGM) date back to 1954, led by Dr. Fernando Ortiz Monasterios with the creation of the first Plastic and Reconstructive Surgery service in Mexico City. Since then, patients from both the national and international spheres have been treated comprehensively. In 1960, due to the high demand for cleft lip and palate patient care, the first cleft lip and palate clinic was founded within HGM by professor Fernando Ortiz Monasterio, comprised of hospital specialists for multidisciplinary care.

Over time, the management of these patients has improved by incorporating other essential medical disciplines in the treatment of this condition. Currently, the cleft lip and palate clinic at the general hospital of Mexico is led by Dr. Silverio Tovar Zamudio, who joined in 2021. Previously, resolved cases of cleft lip and palate were managed by Dr. Juan Antonio Ugalde Vitelly, Dr. Carlos del Vecchyo Calcaneo, Dr. Maria del Carmen Moreno Alvarez, Dr. Luciano Rios Lara, Dr. Raymundo Torres Piña, Dr. Juan Bernardo Baltazar Rendon, and Dr. Jordi Puente Espel. At present, the cleft lip and palate clinic comprises 360 patients who, in conjunction with the services of dentistry, audiology, speech therapy,

genetics, clinical nutrition, and psychology, receive comprehensive and individualized sessions to provide the best patient care (Figure 1 and 2). In this work, we will present the changes in resolved cases in the cleft lip and palate clinic at the general hospital of Mexico from January 2017 to June 2023.

**Figure 1: Patients and caregivers of the cleft lip and palate clinic at the general hospital of Mexico, 2023.**

**Figure 2: Dynamics of the cleft lip and palate clinic at the general hospital of Mexico, 2012.**

The objectives of this study are: 1) To report the prevalence of cleft lip and palate presentation forms at a tertiary care center. 2) To report the multidisciplinary approach protocol for patients treated at the cleft lip and palate clinic of the plastic surgery service at the general hospital of Mexico.

## METHODS

### *Study design*

An observational, descriptive, cross-sectional, and retrospective study of resolved cases at the cleft lip and palate clinic of the general hospital of Mexico from 2017 to 2023 was conducted.

### *Location*

The patient population was selected from those referred to the outpatient clinic at HGM and subsequently referred tocleft lip and palate clinic in plastic and reconstructive surgery service of general hospital of Mexico.

### *Patient recruitment*

Patients are referred to HGM, Dr. Eduardo Liceaga, from primary care centers (Health Centers, affiliated with the ministry of health and without social security affiliation) from any part of Mexico. They are evaluated in the outpatient clinic and then referred to the cleft lip and palate clinic in the plastic and reconstructive surgery service. Patients are assessed by the specialties of plastic and reconstructive surgery, dentistry, clinical nutrition, speech therapy, audiology, genetics, and psychology to make a comprehensive diagnosis and determine a treatment plan through an integrated, multidisciplinary, and the individualized approach based on patient's needs.

### *Inclusion criteria*

All patients treated surgically by the cleft lip and palate clinic, with complete clinical records, were included in the study.

### *Exclusion criteria*

Patients with incomplete clinical records were excluded.

### *Data collection*

To structure the information, a patient database was created with variables in two categories: 1) patient identifier and relevant history and 2) type of reconstruction. Personal identifiers of patients were not used to protect their identity.

### *Statistical analysis*

Data were collected in Microsoft excel 360, and univariate analysis was performed, including frequency tables and percentage calculations.

## RESULTS

All records from the cleft lip and palate clinic of the plastic and reconstructive surgery service at HGM were collected from January 2017 to June 2023. All patients treated surgically by the cleft lip and palate clinic with complete clinical records were included, and patients with incomplete clinical records were excluded. From 2017 to 2023, a total of 121 patients were recorded, comprising 84 males and 37 females (Figure 3 and 4). Procedures included 47 palatoplasties, 30 left cheiloplasties, 14 right cheiloplasties, 6 bilateral cheiloplasties, 24 secondary cheiloplasties, and 11 veloplasties (Table 1).

**Table 1: Frequency of types of the procedures performed in cleft lip and palate clinic at the HGM 2017-2023.**

| Año | Palatoplastia, n (%) | Queiloplastia izquierda, n (%) | Queiloplastia derecha, n (%) | Queiloplastia bilateral, n (%) | Queiloplastia secundaria, n (%) | Veloplastia, n (%)* | Total |
|---|---|---|---|---|---|---|---|
| **2017** | 11 (16.66) | 2 (11.76) | 1 (5.88) | 0 | 3 (17.64) | 0 | 17 |
| **2018** | 3 (11.11) | 5 (18.51) | 4 (14.81) | 1 (3.70) | 10 (37.03) | 4 (14.82) | 27 |
| **2019** | 12 (54.54) | 2 (9.09) | 2 (9.09) | 1 (4.54) | 3 (13.63) | 2 (9.09) | 22 |
| **2020** | 0 | 0 | 0 | 0 | 0 | 1 (100) | 1 |
| **2021** | 2 (16.66) | 6 (50) | 1 (8.33) | 2 (16.6) | 0 | 1 (8.33) | 12 |
| **2022** | 11 (42.30) | 8 (30.76) | 2 (7.69) | 1 (3.84) | 4 (15.38) | 0 | 26 |
| **2023** | 8 (29.62) | 7 (25.59) | 4 (14.81) | 1 (3.70) | 4 (14.81) | 3 (11.11) | 27 |
| | 47 (35.60) | 30 (22.72) | 14 (10.60) | 6 (4.54) | 24 (18.18) | 11 (8.33) | 132 |

*Veloplasty was recorded as a separate procedure.

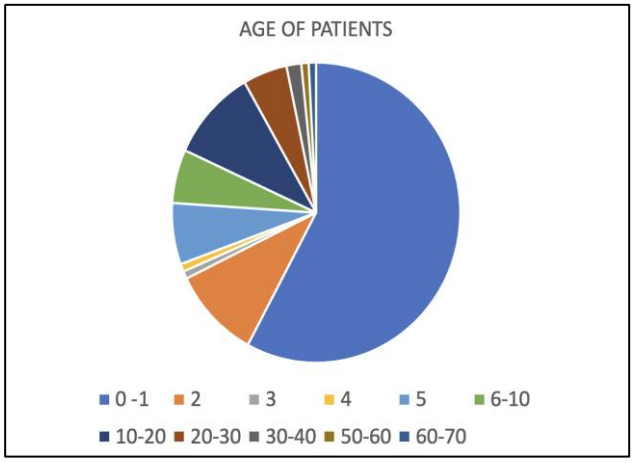


**Figure 3: Distribution by age.**

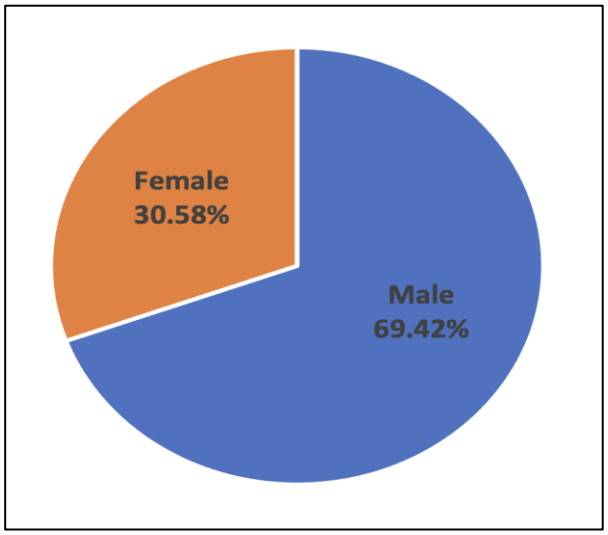


**Figure 4: Distribution by sex.**

## DISCUSSION

Regarding the prevalence of the pathology by gender, our population aligns with national and international reports, with a predominance of males. In our population, 69.42% of the patients are male, which coincides with reports from Contreras et al, Garcia et al and Navarrete.[2-4]

In Perez et al study, the frequency of cleft lip and palate in hospitals across different regions of the country showed a similar frequency between both sexes (47.8% females and 52.2% males), unlike other studies that included only a single region of the country.[5] In Mexico, the incidence of non-syndromic cleft lip and palate ranges from 0.01 to 1.42 per 1,000 live births.[2]

In a retrospective study conducted in Michoacán, Mexico, spanning 23 years, palatoplasty was reported as the most frequent anomaly, affecting 56% of their patients. In our study, it was also the most frequent pathology but at 35.6%.[6]

In our work, the second most frequently encountered congenital abnormality was left unilateral cleft lip (35.6% of all procedures), a frequency similar to that reported by the Acuña et al team (36.1%), which represented the most common anomaly in their study.

Garcia et al in their retrospective study, reported a frequency of bilateral cheiloplasty at 21%. In our clinic, the frequency was 4.54%; however, we reported a higher frequency of palatoplasties than in the mentioned study (35.6% vs. 18%.[3] Mexican prevalence studies do not include reports of secondary cheiloplasty, but in our cohort, it represented 18.18% of the procedures performed. Likewise, this study reports for the first time in Latin American literature the frequency of veloplasties (8.33%).

### *Limitations*

This study is of retrospective nature from a single referral center. Due to its methodology, it provides weak evidence of causality. Likewise, prevalence of cleft lip and palate may be due to their incidence/chronicity, which are different concepts, and it is not possible to determine because it goes beyond scope of present work.

## CONCLUSION

Since the inception of medical residencies in our country, cleft lip and palate had already gained significant importance due to being a high-priority condition with a

high patient demand. It is considered the most prevalent craniofacial malformation worldwide. The cleft lip and palate clinic at the general hospital of Mexico is renowned for its excellence in providing high-quality care, delivered by highly trained healthcare professionals in their respective fields with specific approaches aimed at comprehensive treatment. The healthcare professionals within the cleft lip and palate clinic are committed to the well-being of society by successfully managing complex cases.

The number of resolved cleft lip and palate cases decreased considerably due to the COVID-19 pandemic. Currently, the cleft lip and palate clinic has committed to fully restoring its operations to pre-pandemic levels, gradually increasing the number of resolved cases. By mid-2023, the clinic has already matched the number of surgical interventions performed in 2019, which was the year with the highest number of cases resolved.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Sistema de Vigilancia Epidemiológica de Defectos del Tubo Neural y Craneofaciales. SINAVE/DGE/Salud. Informe Trimestral de Vigilancia Epidemiológica. Primer Trimestre. 2021. Available at: https://www.gob.mx/cms/uploads/attachment/file/632394/InformeDTNyDCF1erTrimestre2021.pdf. Accessed on 21 July, 2023.
2. Contreras-Acevedo FM, Medina-Solís CE, Martínez-Mendoza SA, América PP-L, Herman AE-M, Mauricio E-R. Incidencia de labio y paladar hendido en el Hospital General 'Dr. Aurelio Valdivieso' del estado de Oaxaca de 2008 a 2010. Cir Cir. 2012;80(4):339-44.
3. García RE, Jiménez HME, Aguilar MH, Ramón FT. Prevalencia de labio y paladar hendidos en un Hospital Pediátrico de Tabasco. Cir Plast. 2015;25(3):141-9.
4. Navarrete-Hernández E, Canún-Serrano S, Valdés-Hernández J, Aldelmo Eloy RP. Prevalencia de labio hendido con o sin paladar hendido en recién nacidos vivos. México, 2008-2014. Rev Mex Pediatr. 2017;84(3):101-10.
5. Pérez-González A, Lavielle-Sotomayor P, Clark P, Tusie-Luna MT, Palafox D. Factores de riesgo en pacientes con fisura de labio y paladar en México. Estudio en 209 pacientes. Cir. Plást. Iberolatinoam. 2021;47(4):389-94.
6. Acuña-González G, Escoffie-Ramírez M, Medina-Solís CE, Casanova-Rosado JF, Pontigo-Loyola AP, Villalobos-Rodelo JJ et al. Caracterización epidemiológica del labio y/o paladar hendido no sindrómico Estudio en niños de 0-12 años de edad en Campeche e Hidalgo. Rev ADM. 2009;66(1):50-8.

**Cite this article as:** Azcue AFA, González RRP, Salazar-Del-Pino CP, Quiroz UNB, Tovar ZS. Experience of the cleft lip and palate clinic at the hospital general de México 2017-2023. Int J Res Med Sci 2023;11:xxx-xx.