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Characteristic Of Cleft Lip And Palate At Cleft Center Of Padjadjaran University Dental Hospital: 2 Years Retrospective Study

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Abstrak

Celah bibir dan langit-langit merupakan kelainan kongenital kedua terbanyak di Indonesia. Perawatan kasus ini adalah koreksi bedah, dalam beberapa tahap kehidupan pasien. Tujuan: Ditujukan untuk mempelajari karakteristik kasus celah bibir dan langit-langit di Cleft Center RS Gigi Universitas Padjadjaran Metode: Dalam kohort retrospektif, semua pasien yang terdaftar di Cleft Center (Januari 2018 – Desember 2019) ditinjau. Data yang dikumpulkan terdiri dari umur, jenis kelamin, diagnosis, dan sisi celah. Sebanyak 613 pasien ditinjau, dengan pengecualian 13 kasus karena data yang tidak lengkap. Hasil: Celah bibir dan langit-langit (38%) paling banyak ditemukan, diikuti celah langit-langit (35%), dan celah bibir (27%). Pasien laki-laki (58%) lebih sering diamati dibandingkan pasien perempuan (42%). Sumbing paling banyak ditemukan di sisi kiri (70%) daripada di sisi kanan (30%). Kesimpulan: Celah bibir dan langit-langit adalah kasus yang paling banyak diamati pada penelitian ini. Pasien laki-laki lebih terpengaruh. Celah ditemukan sebagian besar di sisi kiri.

Kata Kunci: Celah Bibir dan Langit-langit, Epidemiologi, Indonesia

Abstract

Cleft lip and palate is the second most common congenital defect in Indonesia. Treatment of this cases is surgical correction, in multiple stages of the patient's life. Aim: Aimed to study the characteristic of cleft lip and palate cases in Cleft Center of Padjadjaran University Dental Hospital Method: In a retrospective cohort, all patients registered in Cleft Center (January 2018 – December 2019) were reviewed. Collected data consisted of age, gender, diagnosis, and side of cleft. A total of 613 patients were reviewed, with exclusion of 13 cases due to incomplete data. Result: Cleft lip and palate (38%) was the most case found, followed by cleft palate (35%), and cleft lip (27%). Male (58%) patient was more frequently observed compared to female (42%). Most cleft was found on the left side (70%) rather on the right side (30%). Conclusion: Cleft lip and palate was the most case observed on this study. Male patient was more affected. The clefts were found mostly on the left side.

Keywords: Cleft lip and Palate, Epidemiology, Indonesia

PENDAHULUAN

Cleft lip and/or palate (CL/P) are a congenital defect resulting from an incomplete fusion of the palatal shelves during the prenatal development. It is not necessarily a fatal condition, but it does affect the quality of life and psychosocial of the patients as well as their family. The incidence of CL/P is 1,5 in every 1000 live births worldwide, but the incidence is assumed higher in developing countries. In Indonesia, based on the Ministry of Health research on 2013, there was 0.08% CL/P cases.

The etiology is multifactorial, consisting of genetics and environmental factors. Some of the genes that has been studied and proven to be associated with CL/P are MSX1, IRF6, MTHFR, etc. Environmental factors associated with CL/P are drugs consumption, nutrition, also exposure to teratogenic agents such as tobacco and alcohol. Lower socioeconomic status was observed on most of the CL/P patients.

CL/P can present as unilateral or bilateral, involving the lip and palate, or palate only. There are some syndromes associated the CL/P such as Robin sequence, Stickler syndrome, and Turner syndrome, but most of the CL/P cases are isolated anomaly. The main therapy for CL/P cases are with surgical correction to close the defect, mainly in the first 2 years of life. The treatment for such cases is challenging and required multi-disciplinary approach.

Cleft Center of Padjadjaran University Dental Hospital is under supervision of Yayasan Pembina Penderita Celah Bibir dan Langit-langit (YPPCBL), founded in 1979, is a non-profit social organization working on helping patients with CL/P from low socioeconomic status. YPPCBL has performed more than 20,000 operations across the country, and also performed peri-surgical treatments such as pre-surgical orthodontics and speech therapy.[9]

This study reports information of the characteristic of CL/P in Cleft Center of Padjadjaran University Dental Hospital during the period of January 2019 – December 2020.

METHODS

This study was done using retrospective descriptive method. All patients registered at YPPCBL during the course of January 2019 until December 2020 were included to the study. The data collected includes age, gender, diagnosis, and side of the cleft.

The age data presented is age on the time of patient's registration to the facility. It was grouped into: 0-2 years; 3-5 years; 6-10 years; 11-20 years; over 21 years. Diagnosis of the defect was done clinically based on the anatomical landmarks. The diagnosis was grouped into three categories: cleft lip; cleft palate; and cleft lip and palate (Fig. 1). Side of the cleft was only observed on unilateral cases.

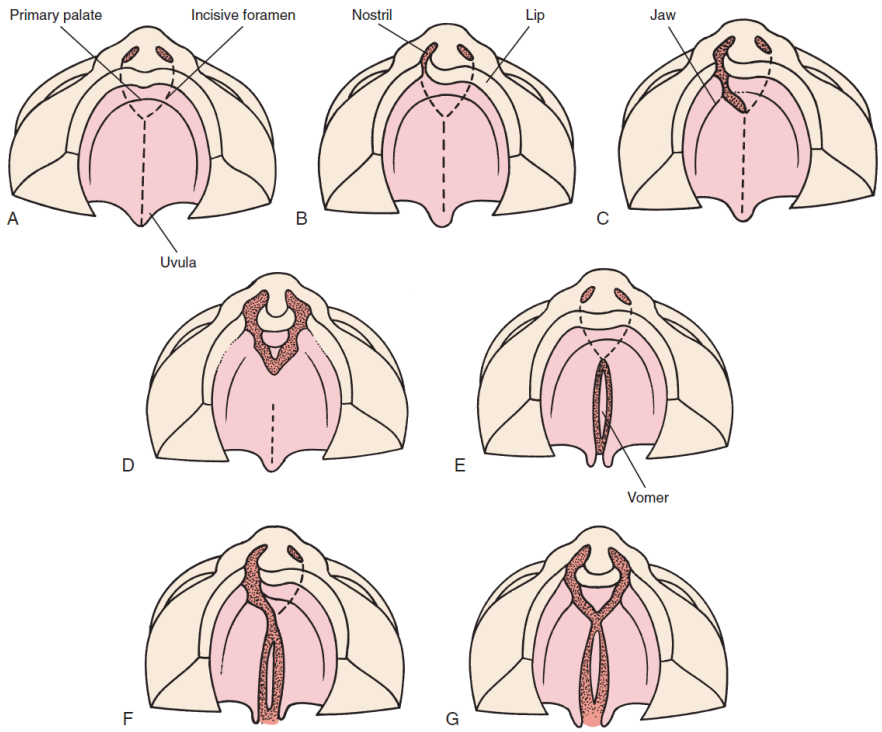

Figure 1. Classification of cleft lip and palate. A. Normal; B. Unilateral cleft lip; C. Unilateral cleft of lip and alveolus; D. Bilateral cleft lip and alveolus; E. Cleft palate; F. Unilateral cleft lip and palate; G. Bilateral cleft lip and palate.

RESULTS

The research was conducted at Cleft Center of Padjadjaran University Dental Hospital during January 2019 until December 2020. 613 patients were registered during the study period, 13 was excluded due to incomplete data. The data used in this study was from medical records of the patient.

The age distribution was mostly 0-2 years (68.3%), followed by 3-5 years (19%), 6-10 years (4.5%), 11-20 years (5.3%) and over 21 years (2.8%) (Fig 2). The gender distribution was dominated by male patients (58%), compared to female patients (42%) (Fig 3).

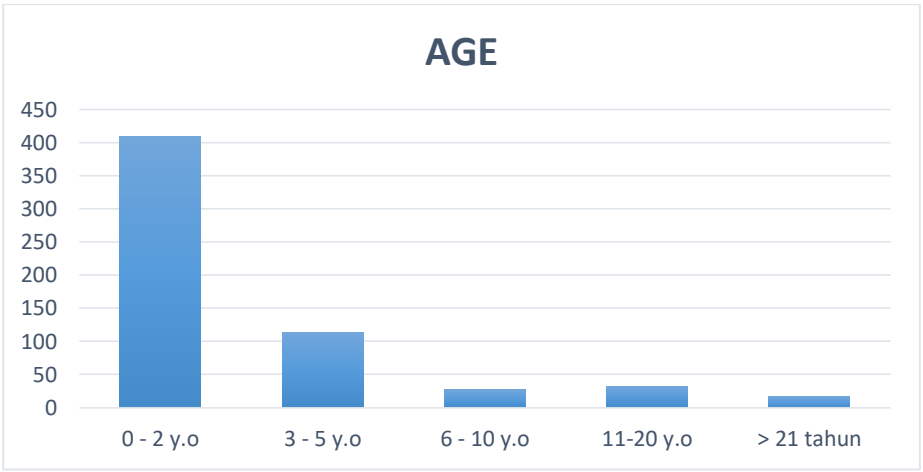

Fig 2. Age distribution of cleft patients

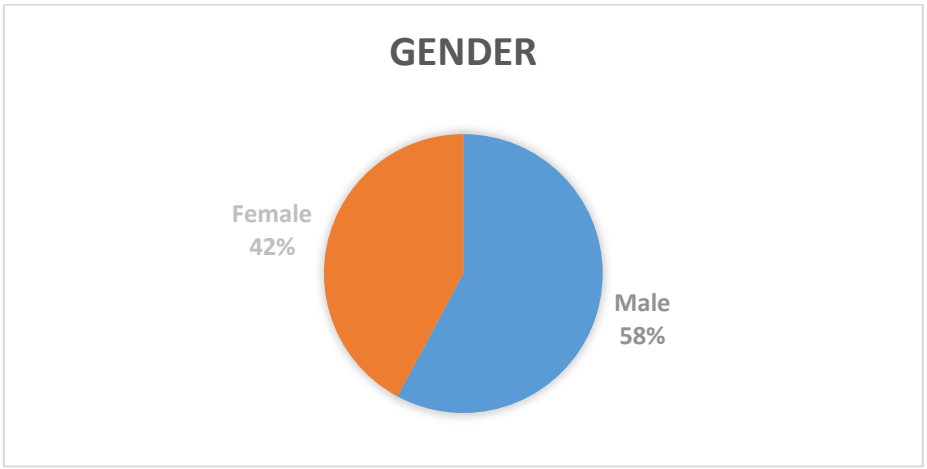

Fig 3. Gender distribution of cleft patients

Gender distribution result from the data showed there were 11 (29.73%) male patients and 26 (70.27%) female patients (Figure 3). Based on the data, 100 (17%) patients were diagnosed with unilateral cleft lip, 3 (0,5%) patients with bilateral cleft lip, 212 (35,5%) patients with cleft lip, 225 (38%) with cleft lip and cleft and 60 (10%) patients diagnosed with other congenital defects such as macrostomia and facial cleft.

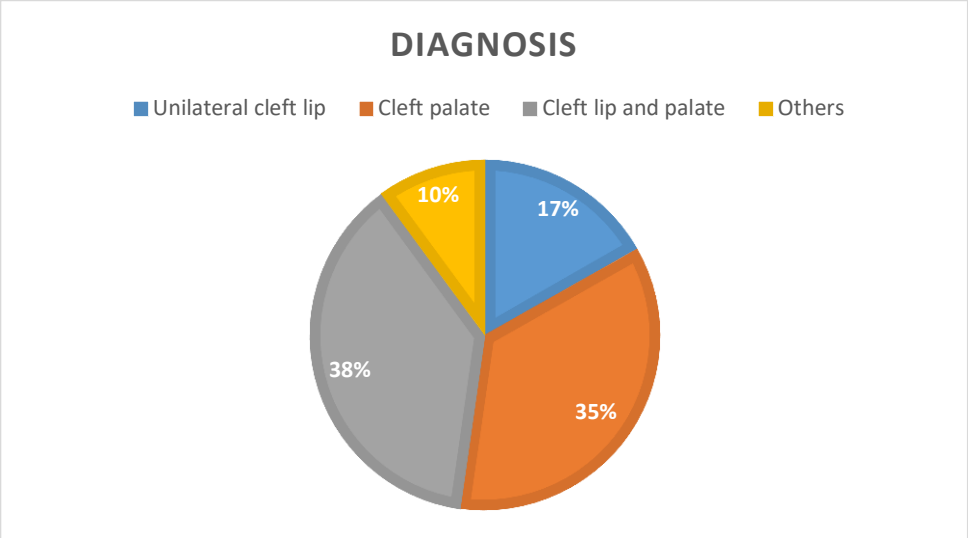

Fig 4. Diagnosis of the cleft lip and/or palate

Based on the location of the cleft, 118 (30%) patients was on the right side and 278 (70%) patients was on the left (Fig 4).

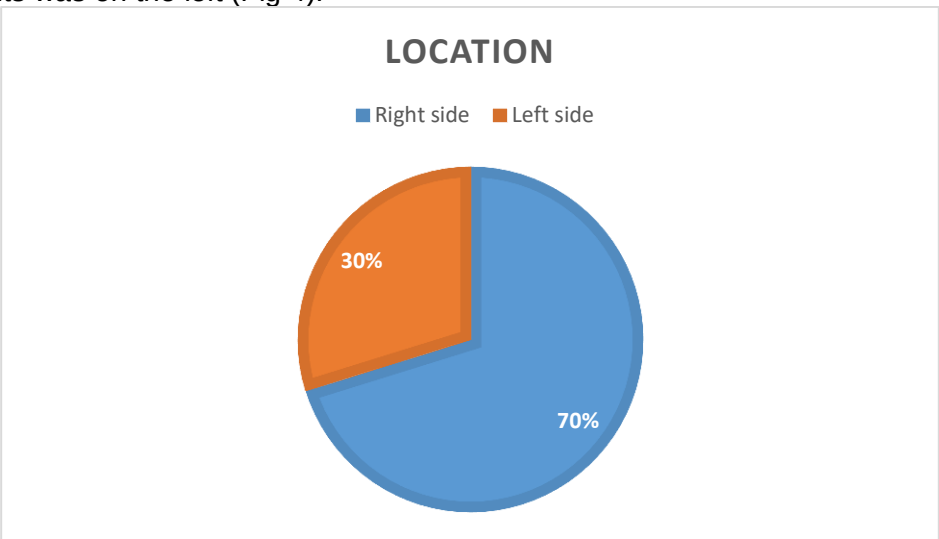

Fig 5. Location of the cleft

DISCUSSION

Cleft lip and palate are a common congenital defect around the world, with more incidences in the Native American and Asian population. The defect does not necessarily have a high mortality rate, but can greatly affect the patient's quality of life, as well as the patient's family. Cleft lip and/or palate usually is non-syndromic, although there are some syndromes associated with the condition. Syndromes associated with cleft lip and/or palate are Robin sequence, Van der Woude syndorme, and Turner syndrome. The exact cause of this condition is not well understood yet, although there are some genetic and environmental factors that has been suggested in the literature.

From the data collected, there are 600 patients with cleft lip and/or palate registered at YPPCBL during the course of two years between January 2019 – December 2020. The age of which the patient registered was mostly in 0-2 years age group (68%), from this data we can conclude that the population in West Java has already had the awareness for cleft lip and/or palate condition. There were more male patients registered (58%), from the literature there are no known gender predilection of the cleft lip and/or palate cases, but Nagase et al suggested that the male suffer a milder case of cleft lip and/or palate compared to women.

Cleft lip and/or palate can be classified according to the affected anatomy, in this study we divide the patient into three categories; isolated cleft lip, isolated cleft palate, and cleft lip and palate. Data showed that most patient (38%) is in the cleft lip and palate category, followed by isolated cleft palate (35%) and isolated cleft lip (17%). Other registered patients (10%) were diagnosed with other craniofacial congenital defects, such as macrostomia and facial cleft. Most affected side is the left side (70%), this is thought to be the result of the prenatal development sequence. Study of the rodent embryonal development showed that the right palatal shelves reached the horizontal position before the left one, this condition made the left side is more susceptible to developmental disruption.

Surgical correction is the treatment for cleft lip and/or palate cases, that is done throughout the patient's life, from as early as 3 months of age. Early surgical correction, less than 3 months, is not known to give more advantage to the end result. Cleft on the palate affects the speech greatly, so it is recommended to do speech therapy following palatal surgery to give the patient normal speech ability. Palatal surgery on the early years of the patient life, can result in fibrotic tissue formation on the palate, thus restricting the maxilla growth. Most cleft palate patients have a class III jaw relationship, this condition can be corrected with orthognathic surgery after the patient reached adult age.

CONCLUSION

Based on this research on the distribution of cleft lip and/or palate characteristics at Yayasan Pembina Penderita Celah Bibir dan Langit-langit between January 2019 to December 2020, it was found that cleft lip and palate is more frequent in male patients, and mostly the cleft is located in the left side compared to the right side. The most common diagnosis found was cleft lip and palate, followed by isolated cleft palate. Most of the patients was registered as early as a newborn, so that the corrective surgery can be done as early as 3 months of age.

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