SHORT COMMUNICATION

Frequency of Cleft Lip and Palate among Live Births in Akbar Abadi Hospital

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Abstract- Cleft lip and cleft palate are one of the most frequent congenital anomalies worldwide. This study was conducted in order to measure the frequency of cleft lip and palate among live births in Akbar Abadi Hospital. This is a descriptive study, dealing with 57526 cases of live birth out of 59477 medical files in Akbar Abadi Hospital from 2004 to 2008. All the collected data were recorded in specific data sheets. The frequency of cleft lip or palate or both was 103 cases in 57526 live births, which is 1.79 per 1000 live births. The frequency of cleft lip, cleft palate and concurrent cleft lip and palate were 0.53, 0.33 and 0.92 per 1000 live births respectively. Among the newborns with any type of this anomaly, 53 (51.5%) were males and 50 (48.5%) were females. Twenty nine neonates (28.2%) had limb anomalies, 13 (12.6%) had syndromic features, 4 (3.9%) had limb anomalies and syndromic features, and 3 (2.9%) had cardiovascular anomalies. Our study indicates a frequency of cleft lip and/or palate near to the average international figure, and close to the findings in European and East Asian countries. Furthermore, the frequency of cleft lip and palate in our study was different from American countries and India probably due to ethnic differences.

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Keywords: Cleft lip; Cleft palate; Congenital Anomalies; Iran; Frequency

Introduction

Cleft lip and cleft palate, occurring in isolation or concurrently, are among congenital anomalies of the craniofacial region, with frequency of 1 per 1000 live births (1,2). Numerous epidemiological studies have been conducted on cleft lip in different regions of Iran and worldwide (4-10). Male neonates are at greater risk of cleft lip and palate compared to Female. Isolated cleft palate in females is more than males. Gender, genetic and environmental factors play the major role in occurrence of cleft lip and palate-whether isolated or concurrent. Moreover, drugs such as corticosteroids, anticonvulsants, salicylates, and aminopterin, and diseases such as rubella and diabetes during pregnancy have a causative role (1,6,11,12). Considering the importance of obtaining accurate estimations about the frequency and other epidemiological features of cleft lip and palate, this study was conducted in order to measure the frequency of cleft lip and palate among live births in Akbar Abadi Hospital.

Materials and Methods

This is an observational study, dealing with 57526 cases of live birth out of 59477 medical files in Akbar Abadi Hospital (Tehran, Iran) from 2004 to 2008. The files had been completed by interns, midwives, residents of gynecology and obstetrics, residents of pediatrics, and neonatologists. The data extracted from these files were collected in tables, those newborns with cleft lip or palate were identified and their families were contacted and invited to Imam Khomeini Hospital for further work-up. All demographical data necessary for the study were obtained through interview with parents or from the medical files. The data concerning the existence of cleft palate and or lip were generated by the researcher through physical examination. All collected data were recorded in specific data sheets. Subsequently, the data were fed into computer using SPSS software. Data were analyzed using Chi-square test with confidence interval of 95% and α=0.05.

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Table 1. Comparison of type and side of involvement for gender of neonates.

		Total	Male	Female	*P* value
Type	Cleft Palate	19 (18.4%)	8 (15.1%)	11 (22.0%)	
	Cleft Lip	31 (30.1%)	19 (35.8%)	12 (24.0%)	0.370
	Cleft Lip and Palate	53 (51.5%)	26 (49.1%)	27 (54.0%)	
Side	Unilateral	93 (90.3%)	48 (90.6%)	45 (90.0%)	
	Bilateral	10 (9.7%)	5 (9.4%)	5 (10.0%)	0.923

Results

The frequency of cleft lip or palate or both was 103 cases in 57526 live births, which is 1.79 per 1000 live births. Among the newborns with any type of this anomaly, 53 (51.5%) were males and 50 (48.5%) were females. Table 1 compares the types of the anomaly and side of involvement for gender.

Discussion

In this study over 5 years, the frequency of cleft lip and palate was found to be 1.79 per 1000 live births. Previously, Golalipour *et al.* reported a prevalence of 0.97 per 1000 for cleft lip and palate in Gorgan, Iran (13). In other studies, Sherkat *et al*. reported 1.03 per 1000 in Shiraz, Iran (14); Aghaee *et al*. reported 0.80 per 1000 in Shiraz, Iran (15); and Farhud reported 1 per 1000 (16); Yassaei *et al*. founded that the prevalence of cleft lip and palate among live births in Yazd is 0.86 per 1,000 births (17). Internationally, figures of 0.46 per 1000 in Sri Lanka (18), 0.83 per 1000 in New Zealand (19), 0.19 per 1000 in Brazil and Latin America (20-21), 0.86 per 1000 in Finland (22), 1.4 per 1000 in Europe (23), 1.39 per 1000 in Middle East (24), 0.34 per 1000 in Africa (25), 1.36 per 1000 in North America (26), and 12 per 10,000 in Australia (27) have been reported. All these figures are less than the findings of our study. However, compared to the Taher study in Tehran which reported 3.73 per 1000 (28), as well as the figures of 2.07 per 1000 in Singapore (29), 1.2 per 1000 in China (30), and 1.86 per 1000 in Czech Republic (31), our findings denote a smaller frequency than other countries except China. Figures similar to our study have been reported from Chile (1.78 per 1000) (32) and South East Asia (1.81 per 1000) (33). It appears that the role of environmental and ethnicity-related genetic factors have caused this discrepancy among different populations. Indeed, others confirmed our findings (34,35).

Moreover, cleft lip and palate were reported more frequent in boys, with cleft lip and concurrent cleft lip and palate being more common in boys, and cleft palate in girls. No difference was observed between boys and girls in terms of the involved side. These findings are in line with most other studies (14,36,37). However, Golalipour *et al.* reported cleft palate to be more common in boys of Gorgan, Iran than in girls (13).

Our study indicates a frequency of cleft lip and palate near to the average international figure, and close to the findings in European and East Asian countries. Furthermore, the frequency of cleft lip and palate in our study was different from American countries and India, probably due to ethnic differences.

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