Cleft Lip and Palate Surgery in Kumasi, Ghana: 2001–2005

Peter Donkor, MDSc,* Daniel Owusu Bankas, MD, DDS,† Pius Agbenorku, MD,‡ Gyikua Plange-Rhule, MB, ChB,‡ Samuel K. Ansah, BDS§

Kumasi, Ghana

Background: A retrospective review of cleft lip operations at our hospital during 1991–2000 showed that on average 17 patients per year were operated on for cleft lip and palate and that each year saw an increasing number of patients being treated. The purpose of this study was to determine the change that had occurred in the number of patients treated for cleft lip and palate during the five-year period from 2001–2005. Patients and Methods: This is a retrospective review of cleft lip and palate operations carried out under general anesthesia at the Komfo Anokye Teaching Hospital. Operating room records were the source of data. Patients treated under local anesthesia were excluded. Information collected included age, gender, and diagnosis. The results were displayed in tables and graphs. Results: A total of 344 patients were operated for cleft lip and palate during the five-year period, i.e. 69 operations per year. The patients comprised 58% males and 42% females and ranged in age from 1 month to 32 years with a mean age of 3.9 years. Unilateral cleft lip operations constituted 78% of all operations. Each succeeding year saw an increase in the number of operations being carried out year during the five-year period. Conclusion: The marked increase in the number of cleft operations per year in our hospital during the period under study was probably due to greater awareness in the community; free surgeries provided by local surgeons with financial support from a US-based NGO; and free operations by a visiting surgical team. Financial, logistical and training support to cleft teams in developing countries is likely to lead to more surgeries for children with cleft.

Key Words: Cleft lip and palate, surgery, review, Ghana

Cleft lip and palate deformity may be syndromic or isolated, and is caused by a combination of genetic and environmental factors.[1] It is considered to be most common among Asians, followed by Caucasians, and least among Blacks. Surgery for cleft lip and palate during childhood prevents the psychological and functional problems associated with the deformity. In developing countries factors such as limited availability of specialized services, lack of awareness of treatment availability, superstition, and lack of money contribute to late or non-presentation for surgery.[2]

Since 1991 surgical treatment of cleft lip and palate deformity has been provided to patients at the Komfo Anokye Teaching Hospital in Ghana by local surgeons. Most operations are carried out under general anesthesia, however, some adults with cleft lip are operated under local anesthesia. Due to the lack of a national health insurance scheme, most of the operations for cleft are paid for directly by the patients or their families. In 2003, a multidisciplinary Cleft Clinic was established in our hospital to promote the comprehensive care of patients with cleft deformity. In 2004 and 2005, a US-based NGO provided some funds to enable surgeons at our hospital increase the number of cleft surgeries being performed. During the same period, a humanitarian surgical team from the US visited our hospital and worked alongside their local counterparts to provide additional free surgeries to patients with cleft lip and palate.

An earlier review[3] of cleft surgeries at our hospital covering the period 1991–2000 showed that 171 patients were operated for cleft lip and palate, na average of 17 operations per year. The trend observed in that study was a year-on-year increase

From the *Department of Surgery, School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Komfo Anokye Teaching Hospital; †Komfo Anokye Teaching Hospital; ‡School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Komfo Anokye Teaching Hospital; and §Komfo Anokye Teaching Hospital, Kumasi, Ghana.

Address correspondence and reprint requests to Peter Donkor, MDSc, Consultant Maxillofacial Surgeon, Department of Surgery, Komfo Anokye Teaching Hospital, School of Medical Sciences, Kwame Nkrumah University of Science and Technology, PO Box 1934, Kumasi, Ghana; E-mail: petadonkor@yahoo.com

Copyright © 2007 Mutaz B. Habal, MD. Unauthorized reproduction of this article is prohibited.

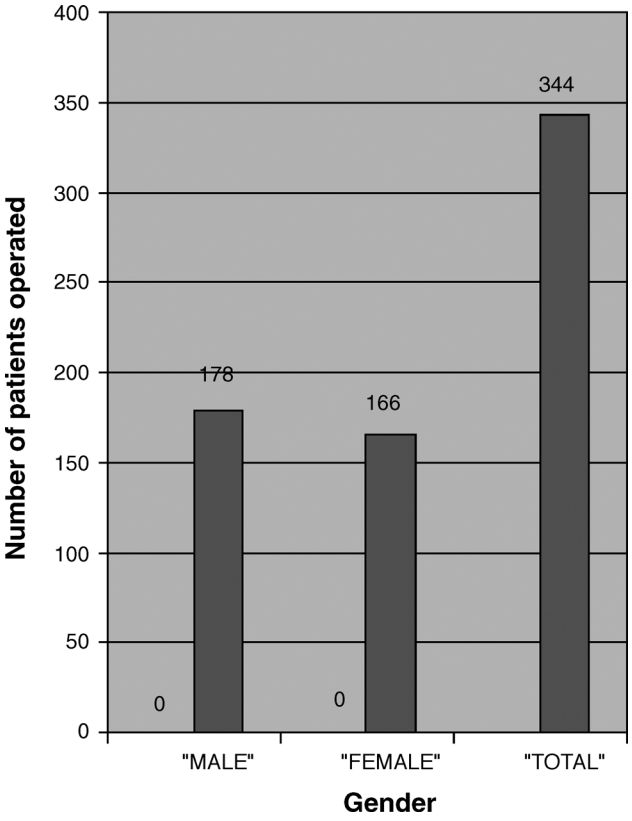

Fig 1 Distribution by gender of patients operated for cleft.

in the number of patients being operated. This was attributed to the increasing awareness in the community about the availability of cleft services. The purpose of the present study was to determine the annual trend in the surgical treatment of cleft lip and palate at our hospital during the five-year period from 2001–2005 and identify any factors responsible for the trend.

Patients and Methods

This is a retrospective review of cases operated under general anesthesia at the Komfo Anokye Teaching Hospital from 2001–2005 inclusive. This is a 1,000-bed hospital located in the middle region of Ghana which acts as the only tertiary referral center for cleft services for the northern half of Ghana and serves a population of approximately 10 million people. The operating room record of operations for patients with cleft lip and palate was the source of data. Data on patients treated under local anesthesia was excluded. Information collected included age, gender, and diagnosis. The results were analyzed using tables and graphs.

Results

A total of 344 patients were operated for cleft lip and palate during the five-year period, giving an average of 69 operations per year. They ranged in age from one 1 month to 32 years with a mean age of 3.9 years and consisted of 58% males and 42% females (Fig 1). Surgery for cleft lip was the commonest operation and constituted 78% of all the operations (Fig 2). There was a progressive increase in the number of clefts being operated each year during the period under study, with a sharp increase in the number of operations from 2003 to 2004 (Fig 3). This increase was sustained in 2005.

Discussion

There was a wide variation in the age of those who were treated, a situation typical of most developing countries.[4] This is thought to be due to a lack of awareness of available services, superstition, and poverty. The sex distribution showed that more males were operated upon. This differed from findings from an earlier report from our hospital[3] and other studies from Africa which observed more cleft operations for females.[4,5]

The observed predominance of lip surgery was similar to the findings from an earlier study from our center[3] as well as from other parts of Africa,[4,5] but differed from studies from other regions of the world.[6–8] It is likely that cleft palate is underdiagnosed in communities like ours with poorly

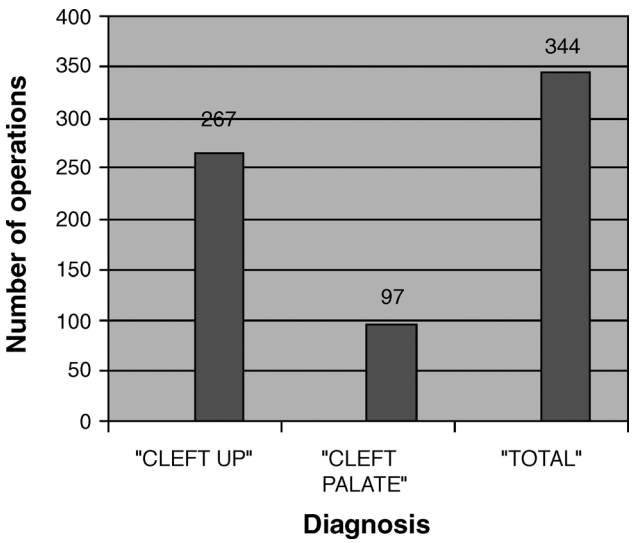

Fig 2 Distribution of patients operated according to type of cleft.

Copyright © 2007 Mutaz B. Habal, MD. Unauthorized reproduction of this article is prohibited.

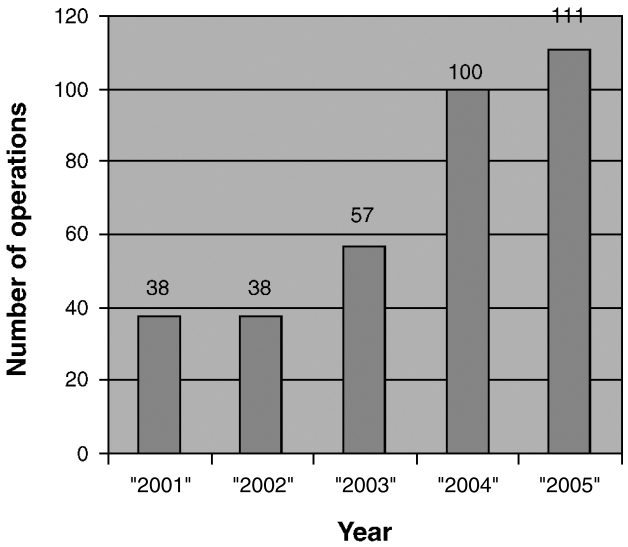

Fig 3 Yearly distribution of operations for cleft 2001–2005.

developed medical services, and therefore is less likely to get treated. In our community, as in Mexico, patients with combined cleft lip and palate may not return for palatal surgery once the lip has been repaired.[9] More patient education is required to reverse this tendency. A more comprehensive and prospective study is required to provide more accurate epidemiological information on clefts in our community.

There was a 4-fold increase in the annual rate of operations for cleft lip and palate in our hospital during the 5-year period under study as compared with the previous 10 years. This increase may be partly due to a raised awareness of cleft lip and palate in the community where successful repairs of clefts over the years probably helped to dispel superstitious beliefs and other myths about facial clefts. The establishment of the Cleft Clinic at our hospital has helped to bring together patients and families with similar deformities who derive support and encouragement from each other, thus increasing the community's acceptance of clefts.

During the period under study there was a steep increase in the number of operations during 2004 and 2005 as compared with the preceding years. This increase was due to the combined efforts of local cleft surgeons who were able to perform more surgeries supported by funds provided by a US-based NGO; as well as a visiting cleft team who provided free surgery for some of our patients. The existing fee-for-service healthcare system in Ghana places limitations on who will have elective surgery. Thus in spite of the availability of local expertise for cleft surgery at our hospital, it is the ability of the patient to pay for the treatment that determines who gets an operation for their cleft.

This study provides some evidence to suggest that the removal of the financial barrier could lead to increased access to surgery for patients with cleft lip and palate in developing countries. Humanitarian teams who visit developing countries to provide cleft surgeries have a role to play in providing care for poor patients who otherwise may never get treated. This role, however, is limited by the emphasis usually placed on operating on large numbers of carefully selected patients within a short time to the neglect of other cleft services.[10,11] The visiting teams could expand their role by offering training to cleft teams in developing countries as well as providing longer term assistance to strengthen the capacity of the local teams to deliver more comprehensive interdisciplinary cleft services to their patients. Financial, logistical, and training support from governmental and non-governmental organizations both local and foreign would likely lead to an increase in the level of cleft services as well as a higher quality of care.

CONCLUSION

There was a significant increase in the number of patients undergoing surgery each year for cleft lip and palate at our hospital during 2001–2005 as compared with the previous 10 years. This increase is partly to be due to a higher level of awareness; an increase in the number of operations performed by local surgeons with financial assistance from an NGO; and the efforts of a visiting cleft team during this period. Locally based cleft teams should be supported financially, logistically and with training by governmental and non-governmental agencies, to increase the number of cleft surgeries and other cleft services being provided.

We acknowledge the help of our colleagues at the Komfo Anokye Teaching Hospital Cleft Clinic. We are also grateful to Smile Train for paying for some of the operations, Children's Surgery International for providing free treatment for some of our patients, and both organizations for sharing the data on patients.

REFERENCES

1. Murray JC. Face facts: genes, environment, and clefts. Am J Hum Genet 1995;57:227–232
2. Schwarz R, Khadka SB. Reasons for late presentation of cleft deformity in Nepal. Cleft Palate Craniofac J 2004;41:199–201

Copyright © 2007 Mutaz B. Habal, MD. Unauthorized reproduction of this article is prohibited.

3. Donkor P, Bankas DO. A clinical survey of patients with cleft lip and palate at the Komfo Anokye Teaching Hospital, Ghana. Proceedings of the Congress on Cleft palate and Craniofacial Deformities, 2001, June; serial no. 474:505–510
4. Iregbulen LM. The incidence of cleft lip and palate in Nigeria. Cleft Palate J 1982;19:201–205
5. Suleiman AM, Hamzah ST, Abusalab MA, et al. Prevalence of cleft lip and palate in a hospital-based population in the Sudan. Int J Paediatr Dent 2005;15:185–189
6. Blanco-Davila F. Incidence of cleft lip and palate in the northeast of Mexico: a 10-year study. J Craniofac Surg 2003; 14:533–537
7. Gregg T, Boyd D, Richardson A. The incidence of cleft lip and palate in Northern Ireland from 1980–1990. Br J Ortho 1994;21:387–392
8. Yi NN, Yeow VK, Lee ST. Epidemiology of cleft lip and palate in Singapore-a 10-year hospital based study. Ann Acad Med Singapore 1999;28:655–659
9. Ortiz-Monastero F, Olmedo A, Trigos I, et al. Final results from the delayed treatment of patients with clefts of the lip and palate. Scand J Plast Reconstr Surg Hand Surg 1974;8:109–115
10. Ward CM, James I. Surgery of 346 patients with unoperated cleft lip and palate in Sri Lanka. Cleft Palate Journal 1990;27:11–15
11. Solomon M Jr. Surgical mission work: an inside perspective. Proc (Bayl Univ Med Cent) 2002;15:147–153

Copyright © 2007 Mutaz B. Habal, MD. Unauthorized reproduction of this article is prohibited.