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Survey of Management of Children with Cleft Lip and Palate in Teaching and Specialist Hospitals in Chhattisgarh

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ABSTRACT

Objective: A survey was conducted to obtain an overall view of the current management of children with cleft lip and/or palate in Chhattisgarh.

Method: Questionnaires were sent to 59 identified cleft surgeons in all teaching and specialist hospitals (private and government) in Chhattisgarh.

Results: A total of 54 respondents returned completed questionnaires. The findings are as follows: (1) a majority of the surgeons (66.6%) are "low-volume operators," undertaking 10 or fewer new cleft repairs annually; (2) (90.74%)of the surgeons repair cleft lip at 3 to 4 months of age, and the most common (68.51%) unilateral cleft lip repair method is the rotation advancement technique; (3) 46.29% of the surgeons use straight line repair for bilateral cleft lip; (4) a majority (77.8%) of the respondents close the soft and hard palates as a single procedure; (46.29%) of respondents use the von Langenbeck technique, 22.22% use the double-opposing Z-plasty and 24.07%, the palatal pushback; (5) in the management of protruding premaxilla, 53.70%) of the respondents choose adhesive tape; (6) procedures such as alveolar bone grafting, rhinoplasty, and surgical treatment for velopharyngeal incompetence are rarely done as part of cleft management; and (7) the interdisciplinary team approach is practiced by 7% of respondents.

Conclusions: This study will provide preliminary information needed for the eventual establishment of standard cleft management for children with cleft lip and palate deformity and the current organization of cleft services in Chhattisgarh.

KEYWORDS cleft lip and palate, hospitals, management, Chhattisgarh

INTRODUCTION

Cleft lip with or without a cleft palate (CLP) and cleft palate alone (CPA) are common birth defects, with a combined birth prevalence of about 1 to 2/1,000.1 Affected children have a number of medical issues and potential complications, and therefore require a wide variety of healthcare specialists beyond plastic surgeons and dental specialists. For this reason, the best environment in which to deliver this care is a multidisciplinary cleft clinic (MCC) that features a team of healthcare providers, including audiology, pediatric otolaryngology, speech pathology, occupational/feeding therapy, and genetics.[1] Genetic studies on human samples have demonstrated that CL/P has a heterogeneous genetic background, and environmental factors also contribute to this malformation (Marazita et al., 1986; Wyszynski et al.,1996).[2] For a neonate with CL/P, appropriate corrective surgery in early childhood is necessary to improve function and appearance. Subsequent impairment of facial and dental development, speech, and hearing are common and may be accompanied by socio psychological maladjustment (Strauss,1998)[3] In this setting, the many medical issues that these children face are comprehensively addressed in the most convenient manner, as all the specialists can be seen in a single busy day.[1] Furthermore, the referring primary care provider (PCP) will receive a concise letter that documents the team evaluation, including future management plans and recommendations for therapy. To our knowledge, there has not been a previous survey undertaken in Chhattisgarh to assess the management of children with CL/P. The purpose of this survey was to establish a database of current cleft management of children .

METHODS

A preliminary registry of cleft care providers in Chhattisgarh teaching and specialist hospitals (private and government)was compiled.Number of sources, including the chhattisgarh cleft association list, local workshop attendance lists, and individuals identified by a literature search. A total of 59 surgeons repairing clefts were identified, and a questionnaire (Appendix) was sent to each of the surgeons asking for details of cleft care in their hospitals. The surgeons were asked about general information concerning patient caseload, the clinical specialities involved in cleft care, primary surgical protocol, techniques for cleft lip and palate repair, and use of a multidisciplinary team in cleft management including anaesthetist and orthodontist It is possible that one or two cleft surgeons working in very remote areas of the country were unintentionally left out of the survey.

RESULTS

A total 59 questionnaires was sent, out of them 54 respondents returned fully completed questionnaires, three respondents returned questionnaires with incomplete information to justify exclusion from the survey, and four questionnaires were not returned, representing a response rate of 91.5%. A majority (38.8%) of these respondents were plastic surgeons, followed by oral and maxillofacial surgeons (33.3%)(Fig. 3). Other surgical specialities identified as undertaking cleft surgery include general surgeons (16.6%), pediatric surgeons (7.4%), and ear, nose, and throat surgeons (3.7%). The majority of surgeons were "low-volume operators," undertaking 10 or fewer new cleft lip repairs annually (Table 1). Only nine (23.7%) surgeons

undertook more than 30 new cleft lip repairs annually. All the high-volume operators were either plastic surgeons or oral and maxillofacial surgeons, and all had passed the national professional fellowship examination in their respective

Timing of Surgery, Surgical Techniques and Treatment Protocols

A majority (90.74%) of the respondents usually done lip repair by 3 to 4 months of age although, seven respondents wait until 6 to 9 months of age before repair. Ninety-five percent repair both sides of a bilateral cleft lip as a single procedure. A total of 47 surgeons (87.03%) repair the palate at approximately 18 months of age, and a majority (81.48%) close the soft and hard palates in the same surgical procedure. Only five surgeons refer children with cleft palate for ear, nose, and throat consultation. The most common technique of unilateral cleft lip repair is the rotation-advancement technique of Millard, used by (68.51%) of the surgeons (Table 2) where as the straight line repair is the least frequently used for unilateral cleft (12.96%) However, (46.29%) of the surgeons use straight line repair for bilateral cleft lip (Table 3) The most common technique of cleft palate repair most respondents reported(46.29%) is the von Langenbeck, followed by palatal pushback (24.07%) and double-opposing Z-plasty (22.22%). Only six surgeons reported using the vomer flap procedure (Table 4).

TABLE 1 The Median Number of Cleft Lip and Palate Repairs Undertaken by High-, Medium- and Low-Volume Operators

	High Volume (>30 Lip Repairs a Year	Medium Volume (<30 but .10 Lip Repairs a Year)	Low Volume (<_10 Lip Repairs a Year)
Median number of lip repairs	48	17	5
Median number of palate repairs	34	13	3
Total number of surgeons	11	5	36

Management of Protruding Premaxilla is being managed as follows: adhesive tape by29 (53.70%) of the respondents, head cap by12(22.22%), lip adhesions by (12.96%), presurgical orthopedics by 6(11.11%) and the presurgical nasal alveolar molding devices by 2(3.70%) Alveolar cleft repair done by only seven (12.96%) of the respondents .Only two respondent used gingivoperiosteoplasty method and and bone-graft method for alveolar cleft repair were reported by one of these respondents.

Cleft Team and Ancillary Staff is necessary for complete treatment for cleft lip and palate but out of 54 respondents ,47 (87.03%) work in isolation, and only eleven (20.37%) practice the team approach to management. Of the eleven documented cleft teams, only four have an orthodontist available as part of the team, and none had a speech pathologist or a speech therapist. In the absence of speech pathologists, eight surgeons indicated that they manage velopharyngeal incompetence (VPI). Diagnosis of VPI was based on the existence of a continued speech defect after palatal repair.

TABLE 2 Unilateral Cleft Lip Management

Age of Definitive Repair	n (%)
3–4 mo 33 5–6 mo 4 >6 mo 1	49(90.74%) 6(11.11%) 1(1.855)
Technique Rotation advancement Straight line Triangle flap	37(68.51%) 7(12.96%) 11(20.37%)

TABLE 3 Bilateral Cleft Lip Management

Age of Definitive Repair	n (%)
3–4 mo 5–6 mo >6 mo	38(70.37%) 12(22.22%) 2(3.70%)
Technique Rotation advancement Straight line Triangle flap	 17(31.48%) 25(46.29%) 10(18.51%)

TABLE 4 Cleft Palate Management

Stage	n (%)
Single-stage method Two-stage method	42(77.77%) 13(24.07%)
Technique von Langenbeck Double-opposingZ-plasty Palatal pushback Vomer flap	 25(46.29%) 12(22.22%) 13(24.07%) 6(11.11%)

DISCUSSION

In present study a majority (90.74%) of the respondents usually done lip repair by 3 to 4 months of age although, seven respondents wait until 6 to 9 months of age before repair. Ninety-five percent repair both sides of a bilateral cleft lip as a single procedure. There is currently a large variation in the timing of cleft surgery and the surgical techniques that are used (Osborn et al., 1983; Lee et al., 2003; Weinfeld et al., 2005).In the present report, the rotation-advancement method was found to be the most common method for cleft lip repair, applied more frequently than evidenced in the reports from Korea (Lee and Kim,2003) and the U.K. (Asher-McDade and Shaw, 1990).However, contrary to the findings in most recent studies (Lee et al., 2003; Weinfeld et al., 2005), straight line repair was found to be the method of choice by most surgeons for bilateral cleft lip.[4,5]

A majority of the surgeons in the present report perform one-stage palatal repair 42(77.77%) .This observation represents a possible difference from the findings in the Eurocleft report, which shows that approximate (50%) of patients undergo one-stage soft and hard palate repair at various times, either in isolation or in combination with lip procedures (Shaw et al., 2001).[6]. Another notable finding of the present study is the use of the von Langenbeck simple closure technique as the most frequent procedure for palatal closure.

Management of Protruding Premaxilla is being managed as follows: adhesive tape by29 (53.706%) of the respondents, head cap by12(22.22%), lip adhesions by (12.96%), presurgical orthopedics by 6(11.11%) and the presurgical nasal alveolar molding devices by 2(3.70%) The present survey show a significant use of adhesive tape among the respondents for protruding maxilla .Only 5.3% make use of nasoalveolar molding devices compared with 48.3% reported in European countries (Asher- McDade and Shaw, 1990; Shaw et al., 2001; Weinfeld et al., 2005).[4,6,7]

Cleft care professionals in developing countries, in most instances, are not empowered with enough information to give education on lactation and other feeding techniques to parents with children with CL/P (Olasoji et al., 2005).[8]

Cleft Team and Ancillary Staff is necessary for complete treatment for cleft lip and palate but out of 54 respondents ,47 (87.03%) work in isolation, and only eleven (20.37%) practice the team approach to management. Of the eleven documented cleft teams, only four have an orthodontist available as part of the team, and none had a speech pathologist or a speech therapist. In the absence of speech pathologists, eight surgeons indicated that they manage velopharyngeal incompetence (VPI). The national shortage of specialists such as orthodontists, otorhinolaryngologists, and speech profession-

als was given by a majority of the respondents as the main reason for not running cleft clinics. It has been recognized for some time that the preferred form of delivery of care for children with CL/P is by interdisciplinary cleft team (Strauss, 1999). [9,11]

CONCLUSION

The result showed that an uncoordinated approach towards the care of cleft palate is in practice and in majority of the patients there was poor treatment outcomes .These finding suggest the need for the development of integrated team apporoach with well defined treatment protocol for the care of cleft lip and palate patients in Chhattisgarh.

The complex nature of treatment for CI/P, a condition that requires a large multidisciplinary team treating patients from birth to maturity, has been outlined. Subjecting centres' outcomes to audit should precede heeding the current siren calls for paediatricians to refer children exclusively to a particular surgical speciality. A growing body of evidence has shown a close correlation between quality of outcome and the availability of high volume centralised care by dedicated teams,[10] as has been proved and accepted for years in other fields such as surgery in infancy, childhood malignancies, and cystic fibrosis. We hope that the findings in this study will provide preliminary information for the eventual establishment of standard management for children born with CL/P in Chhattisgarh and other countries in the years ahead.

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