

TEAM APPROACH IN THE REPAIR OF AN ADULT CLEFTLIP

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INTRODUCTION

Clefts of the upper lip and palate are the commonest congenital deformities affecting the orofacial complex in humans (Girdler, 1994). In cleft lip with or without cleft palate, the problems encountered would include those of feeding, hearing, speech, malocclusion and caries. The airways may also be compromised especially at birth. Despite these varied problems, children and adults in our community report only for the repair of the cleft (Oluwasanmi et al, 1970; Sowemimo, 1976; Adekeye and Lavery, 1985). This is because awareness of the treatment of the problems associated with cleft is low (Isiekwe, 1981).

There is beginning to be a change in attitude (Osuji et al., 1994; Akpata et al, 1995a; Akpata et al., 1995b). Osuji (1994) reported that children in Ibadan with clefts, who presented for rehabilitation, were provided with feeding plates and presurgical orthopaedic appliances (Osuji et al. 1994). However, the author was not explicit on whether these patients were treated by his unit (Paedodontics) independently or in conjunction with other specialties.

The purpose of this paper is to report a comprehensive team approach in the management of an adult cleft in Nigeria and to confirm benefits that can accrue through combined team management. In this report the roles played by the Oral and Maxillofacial surgical team, the Orthodontist, Prosthodontist, speech therapist, Ophthalmologist, Medical social workers and Health visiting nurses are highlighted.

CASEREPORT

An 18-year-old female patient reported at the University of Benin Teaching Hospital Dental Clinic with a history of unilateral left cleft lip, following a referral from a public hospital in the city. She admitted to living all her life in the village and did not seek for medical assistance largely because of ignorance about the existence of treatment for her affliction.

On presentation she was seen to have a cleft of the left upper lip and alveolus, incompetent lips, and an associated limited opening of the left upper eyelid (fig. 1) intraorally, her oral hygiene was very poor, with generalized marginal gingivitis, more severe in the cleft region. The teeth present were as follows: 11 to 17, 21 to 27, 31 to 37 and 41 to 48. Tooth 21 was hypoplastic, proclined and markedly rotated distolabially. Tooth 22 was peg-shaped. The overjet was 8mm in relation to 11 and 10mm in relation to 21, the overbite was normal in relation to 11, with an incomplete anterior open bite in relation to 21. The upper centerline was

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deviated to the left by 2mm. The cleft of the alveolus was located between teeth 21 and 2 (fig. 2). After this initial examination, the patient was referred to the Medical Social Works and Health Visiting departments of the hospital for counseling. Here psychological and social counseling was administered including home visitation to assist the patient to better cope with her disability.

Fig. 1: Pre-op photograph showing clefts and ocular deformities



Fig. 2: Intraoral view showing clefts and hypoplastic teeth 21, 22.



OPHTHALMIC EVALUATION

The patient presented at the ophthalmology clinic at age twenty complaining of the left eye, which has remained closed since birth. She had no history of previous trauma and stated that she has always had poor vision from the left eye. A detailed antenatal and delivery history could not be obtained but the patient claimed that she was delivered at home.

On examination, she presented with an excellent visual acuity of 6/5 in the right eye and was myopic (6/36) in the left. The right eye was normal in all respect but the left presented with a

depressed medial canthus and a small palpebral fissure. The refraction of the left eye was 2.00DS, which could not be improved as she had amblyopia. The conjunctiva was white, the cornea clear, the pupils showed normal responses, the lens was transparent, and examination of the fundus revealed a normal disc with a view of the macula. Examination of her ocular muscle function revealed that she had a maximum upward gaze of 2mm, a straight gaze of 3.5mm, and a downward gaze of 3mm. The width of the left eye was 25mm and had restricted movement in all directions. There was no crease on the left eyelid. Based on the above, it was decided that she would benefit from ptosis surgery via the orbicularis suspension procedure, which was still being arranged at the time of this report.

PRE-SURGICAL ORTHODONTIC TREATMENT

Following a thorough oral prophylaxis and oral hygiene motivation, an upper arch fixed appliance technique utilizing a 0.018" x 0.022" standard Edgewise slot was commenced without prejudice to the fact that full upper and lower fixed appliances may be required at a later date to correct residual deformities (fig. 3).

Fig. 3: Orthodontic brackets in place prior to debonding



Brackets were bonded to teeth 15 to 25 and a 0.015" twisting arch wire was tied in to initiate alignment of the teeth. Four weeks later, this was replaced by a 0.017" twist flex arch wire followed by a 0.016" round arch wire the next month. A rotation wedge was placed on the distal wing of tooth 21 bracket to facilitate derotation. At the end of 6 months, complete derotation of 21 was achieved.

The peg-shaped 22 was then moved distally with the use of a power chain along the arch wire to create sufficient space for a temporary prosthesis pending repair of the cleft alveolus with a bone graft. This was achieved in 4 months.

SURGICAL REPAIR

Eleven months after the commencement of orthodontic treatment, surgical repair of the cleft lip was then undertaken utilizing the Millard's technique. A satisfactory lip closure was achieved and post-operative recovery was uneventful (fig. 4). The brackets were left in place during surgery to reduce the potential for relapse. Debonding of brackets took place at the completion of healing.

SPEECH THERAPY

Initial speech assessment was carried out at age 18 years.

Fig. 4: Post-op view of lip closure



Tests revealed defects in the enunciation of several consonants (voiceless, fricative and non-fricative), though all vowel sounds were adequately delivered. The patient had adequate receptive and expressive language development. The patient also exhibited hypernasality, though with an acceptable voice pitch.

Following successful lip repair at age 19 years, speech correction was instituted and maintained weekly with daily home exercises prescribed. A reassessment of the speech after 3 months of continuous therapy revealed a dramatic improvement, with residual defects persisting only in the pronunciation of biblical sounds. These residual defects were eliminated from the speech by the time the orthodontic and phases had been completed.

PROSTHETIC MANAGEMENT

A composite facing was carried out on the hypoplastic tooth 21, and the peg-shaped 22 was also built up with composite. A Hawley's retainer modified with the addition of a tooth to help maintain the space created by the distalisation of tooth 22, was inserted after debonding. This was kept in place for six months. An interim removable acrylic partial denture was then used in its place (fig. 5.)

Fig. 5: Intra-oral view showing acrylic partial denture maintaining space created by distalisation of tooth 22.



FUTURE MANAGEMENT

Bone grafting for the cleft alveolus is still being contemplated, though the patient appears very satisfied with the results that

Fig. 6: Patient's appearance at end of current treatment.



have been achieved so far (fig. 6). Further restoration of 21 and 22 with porcelain laminate veneers and jacket crowns may be necessitated with time as the composites deteriorate and discolour. Presently however, the patient seems very pleased with the results achieved. Regular six monthly recalls are planned to review the patient's progress and maintenance of her oral health status.

DISCUSSION

The team approach in the repair of cleft lip and palate is uncommon in this part of the world (Adekeye and Lavery, 1985). This could be due to shortage of specialists, ignorance of patients, cost and duration of treatment. Despite these limitations, in a high percentage of cases, the skills of the surgeons produce results, which are cosmetically satisfactory, and there is then little cause for embarrassment. However, the cliché of team participation is relevant and it is a truism to say that any single member of that team, who pursues his specialty unilaterally, without recourse to other members of the team, is liable to failure because of inadequate management of at least a proportion of cases (Edward and Watson, 1980).

Many theories have been proposed on how best to manage these deformities. Areas of variation include the best timing for the operations, the best type of operation, best timing for orthodontic intervention, and means of analyzing and predicting speech deformities (Stasson, 1994). The literature is replete with conflicting recommendations regarding how best to manage these patients. For example, early post-natal surgical repair of the lip and palate is thought to be essential for aesthetics, mastication and speech. However, this is also thought to impede maxillary growth and development in addition to predisposing to early relapse (Naumann, 1980, Edward and Watson, 1980).

Our experience here has been that management is not carried out at ideal times or in sequence due to the shortage of qualified specialists. The inability of a majority of patients to afford the

cost of treatment, ignorance and unwillingness of many patients to continue with any other form of treatment after the surgical repair of the lip contribute to management lapses.

Though the case reported here presented late, she cooperated and persisted with all the treatment given presumably from the motivation obtained from receiving free orthodontic treatment and the profound improvement in her appearance achieved by the initial presurgical orthodontics. The role played by the social workers and health visiting nurses was also extremely valuable and it is recommended for all such cases.

CONCLUSION

A comprehensive team approach in the management of an 18-year-old female patient with a cleft of the left upper lip and alveolus is reported.

Ignorance and shortage of specialists, which was the drawback to treatment, are being overtaken by the high cost of treatment and unwillingness of patients to continue with any form of treatment, after the surgical repair of the lip. Active motivation of the patients coupled with logistical assistance from government or non-governmental agencies (NGOs), will also help to facilitate the treatment of more cases.

REFERENCES

1. Adekeye EO, Lavery KM. Cleft lip and palate in Nigerian children and adult, a comparative study. *Br. J. Oral Maxillofac. Surg.* 1985; 23: 398-403.
2. Akpata O, Ojo MA, Eroje ME, Ohre O. Congenital cleft lip, cleft palate and lip fistulae (Van Der Woude syndrome) in 2 Nigerian families. *Saudi Dent. J.* 12994; 7(1): 41-44.
3. Akpata O, Ojo MA, Obuekwe O. Congenital oral adhesion (syngnathia) with total cleft palate in a Nigerian child. *Cleft Palate J.* 1995; 32: 529-503.
4. Edward M, Watson ACH. *Advances in the management of cleft palate.* Churchill Livingstone. 1980
5. Girdler NM. Is cleft lip and palate surgery in Utero conceivable? *Int. J. Paediat. Dent.* 1994; 4(3): 180.
6. Isiekwe MC, Logan WW. An analysis of the first 100 orthodontic patients treated in Lagos University Teaching Hospital. *Nig. Dent. J.* 1981; 1: 1-5.
7. Naumann HH. *Head and neck surgery.* Vol 1. W. B. Saunders Co. 1980.
8. Osuji OO, Ogar DI, Akande OO. Cleft lip and palate as seen in the University College Hospital, Ibadan. *West Afric. J. Med.* 1994; 13(4): 242-244.
9. Oluwasanmi JO, Adekunle OO. Congenital clefts of the face in Nigeria. *Plast. Reconstr. Surg.* 1970; 46: 245-251.
10. Sowemimo GOA. Cleft lip and palate in Nigeria. *Nig. Med. J.* 1976; 410-416.
11. Stasson LFA. The management of patients with a cleft lip and palate deformity. *Brit. J. Oral. Maxillofac. Surg.* 1994; 32: 1-2.