

Profound Benefits of Prenatal Diagnosis in the Quality of Life and Care of Clefts

Spiros A Lazarou

ABSTRACT

Prenatal diagnosis of clefts has had a profound benefit in the care of these children. The shock of the surprise appearance, especially the complete bilateral cleft with the protruding premaxilla, was a profoundly disrupting and stressful experience for the family. Prenatal diagnosis, especially when coupled with the option of neonatal surgery, allows calm discussion with the family and a well-thought treatment plan with multiple options that can be implemented at birth. With proper consultation and some before and after photos, parents are put at significant ease. Most are enthusiastic about immediate neonatal repair, which is done within the 1st week of birth. Additional benefits of this include molding of the premaxilla in preparation for closure of the alveolus cleft with calcium bone substitutes obviating presurgical orthopedics. Besides going home with a normal looking child that can even breast feed, the family does not have to be disrupted again with another visit for this surgery at 3 months. Complete unilateral and bilateral clefts can be successfully treated for the most part with two surgeries within 6 months of life.

Keywords: Cleft, Neonatal surgery, Premaxilla, Prenatal.

How to cite this article: Lazarou SA. Profound Benefits of Prenatal Diagnosis in the Quality of Life and Care of Clefts. Donald School J Ultrasound Obstet Gynecol 2016;10(4):372-375.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Prior to the advent of prenatal diagnosis of clefts, the birth of a child with cleft lip and palate, particularly a complete bilateral cleft with a seriously protruding premaxilla, was a rather shocking event for the family as well as the staff. The dreams and hopes of the family are shattered rather abruptly. Tenuous relationships are

stressed and simmering family problems come to the fore. In my experience of over 900 clefts, this has not rarely led to fierce family feuds and even divorce.

In the Greek culture and language, the person is identified with the face as the word for both (prosopo/προσωπο) is the same and the significance of a normal face to personhood cannot be overestimated. Offering immediate neonatal cleft lip repair to the family went a long way to alleviate the initial stress. The child could feed better, even breast feed, and went home quicker looking normal.

Nevertheless, the advent of prenatal diagnosis has given us even further significant advantages. The trauma of the diagnosis, on the one hand, was moved forward 2 to 3 months but without the visual, and the careful handling by the diagnosing physician, the shock is significantly ameliorated. The immediate referral of the family to myself for discussion, something arranged as soon as possible, enables a calm conversation with rational discussion of the cleft and possible treatment plan that includes the option of immediate neonatal reconstruction. The before and after photographs that are shown to the parents have a powerful impact, as the results we achieve today have dramatically improved due to highly specialized care.

It is important to know that the cleft itself is not a sickness and very infrequently associated with anything serious. The latter is often visible before the cleft.

Almost without exception the parents are enthusiastic about immediate surgical repair of the lip. Having discussed the details of this beforehand, there is a coherent and well thought-out plan. Every detail of the cleft is not known until birth and it is not necessary. If the child is well and the neonatologists permit us, which is usually the case, the child goes to a preplanned surgery. If there is only a cleft lip (Fig. 1), then treatment gets finished and the child goes home to a happy family that does not have to come back for anything other than follow-up. If the child has a cleft palate as well, then the family returns at 6 months for the palate surgery.

If there is a complete cleft lip and palate, i.e., the cleft includes the alveolus, then the first surgery includes the repair of the hard palate with the lip (Fig. 2). At a second stage, a few months later the soft palate is closed along with the alveolus. Now, here it is important to understand an additional significant factor in the neonatal repair that involves the discovery of a synthetic bone graft through

Chief, Assistant Chief and Consultant

Department of Craniomaxillofacial Surgery, Hygeia Hospital Athens; Department of Pediatric Plastic and Craniomaxillofacial Surgery, IASO Pediatric Hospital, Athens; Department of Plastic Surgery, Hygeia Hospital, Athens; Department of Pediatric Plastic and Craniomaxillofacial Surgery; IASO, Miterra and Lito Maternity Hospitals, Kifisia, Greece

Corresponding Author: Spiros A Lazarou, Chief, Assistant Chief and Consultant, Department of Craniomaxillofacial Surgery, Hygeia Hospital Athens; Department of Pediatric Plastic and Craniomaxillofacial Surgery, IASO Pediatric Hospital Athens; Department of Plastic Surgery, Hygeia Hospital, Athens Department of Pediatric Plastic and Craniomaxillofacial Surgery IASO, Miterra and Lito Maternity Hospitals, Kifisia, Greece Phone: +302108015926, e-mail: asl@otenet.gr



Fig. 1: Unilateral cleft



Fig. 2: Preoperative and postoperative



Fig. 3: Repaired cleft lip molds premaxilla

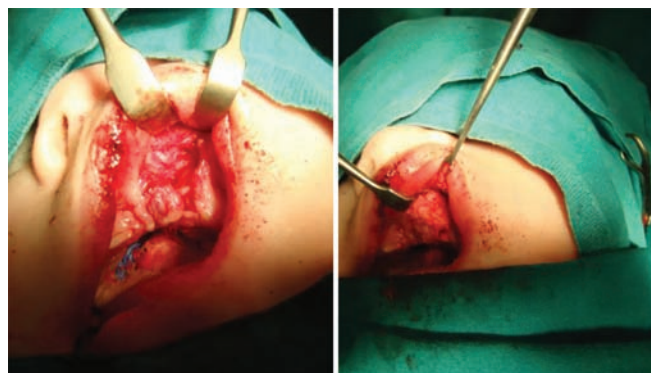


Fig. 4: Placement of calcium substitute



Fig. 5: Complete clefts treated within 1st year

which a tooth can erupt.¹ This obviates the need for a donor site. Additionally, we are showing that this material does not seem to cause any significant maxillary restriction in growth. For these reasons, we can proceed to repair the alveolus early as opposed to waiting for 7 to 10 years, which is the current practice. The early repair of the lip aids in the early repair of the alveolus as it serves to mold the protruding premaxilla and realign it with the lateral maxillary segment (Fig. 3).

Essentially, we have reduced the three major stages of complete cleft reconstruction over 10 years to two surgeries within the first 6 months of life. The early repair of the alveolus (Fig. 4) is further significant in that we avoid 10 years of oronasal fistula with food and drink coming

out of the nose and poor dentition and oral hygiene, besides the lack of a donor site, additional expenses, and morbidity associated with this (Fig. 5).

After the two main surgeries, the patients then undergo various degrees of orthodontics before their treatment is complete (Fig. 6). Most patients will require a surgery to finalize improvement of various details of their clefts, including a septorhinoplasty, buccal sulcus repair, and repair of various imperfect elements of the lip and nose. All these can happen at one surgery as a teenager or separately at various ages.

In mild (Fig. 7) and moderate (Fig. 8) bilateral clefts with unilateral alveolar cleft component, the treatment follows the course of unilateral clefts. In these cases where



Fig. 6: After completion of orthodontics



Fig. 7: Bilateral cleft lip palate-mild



Fig. 8: Bilateral cleft lip palate-mod



Fig. 9: Bilateral cleft lip palate-severe

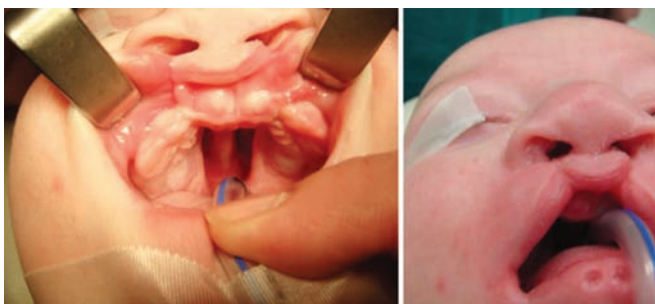


Fig. 10: After lip adhesion and premax set back



Fig. 11: After lip adhesion and premax set back and palate repair



Fig. 12: S/p complete repair 2 operations

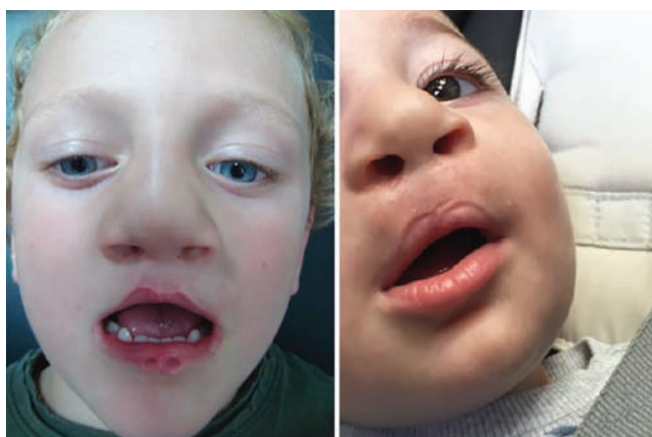


Fig. 13: S/p complete 2 stage repair of BCLP

the alveolus cleft is bilateral, for now we delay grafting till 7 to 10 years when the arch has been properly aligned.

In cases of significant protrusion of the premaxilla (Fig. 9), we have developed a limited operation where we reset the premaxilla to realign the arch and add a lip

adhesion (LA) (Figs 10 and 11). Full repair of the lip in this context may endanger the blood supply of the premaxilla, so 4 to 6 months later we do complete lip and palate repair (Figs 12 and 13). What was once a reason for abortion for many has now completely been obviated.

Now it is given that these children are under the care of an entire team of specialists that include a speech therapist, orthodontist, and otolaryngologist among others. Increasingly, fewer children require secondary surgery for speech or autologous bone grafting, or suffer from fistulas, and even fewer children require Lefortes. In short, the quality of life of these children and their families has dramatically increased.

In summary, prenatal diagnosis of cleft lip and palate has had a profound influence in diminishing family stress, developing an organized treatment plan, properly

planning neonatal surgery as labor begins, in addition to the benefits of neonatal surgery that include further stress relief, earlier feeding, breastfeeding, diminished stay and as trips to the hospital, and preparation of the alveolus for its repair and completing the main components of the cleft-lip, palate, and alveolus.

REFERENCE

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