

THE ONIZUKA TECHNIQUE IN TREATING THE CLEFT LIP AND PALATE

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Abstract

By studying the Eurocleft Project 1996 – 2000 report, after analyzing the reports received from 201 European centers which treat cleft lip and palate (CLP), we notice the existence of many approaches for treating this particular malformation, utilizing very different surgical techniques, hardly finding similar methods (1).

The author analyzed the results obtained by utilizing the Onizuka as the main treatment scheme of the CLP, through a prospective study including 63 children with CLP, treated in the Pediatric Surgery and Orthopedics Department of the “Sf. Maria” Children Hospital, in Iasi, between January 1995 – December 2004. From this lot, 9 (14,29%) patients had only a cleft lip, and 54 (85,71%) had a cleft lip and palate. 41 (65,08%) patients had the cleft on the left side, 13 (20,63%) on the right side, and 9 (14,28%) had bilateral clefts. 34 (53,97%) patients were boys and 29 (46,03%) patients were girls. Most of the patients were operated at the age of 5-6 months. All the patients were operated by the author.

CLP represents a common malformation, by some authors is considered to be the 2nd most frequent congenital malformation found in live newborns: 1 in every 700-800. Generally it is considered that 25% of the cases have only a cleft lip, and 50% of the cases have a complete cleft lip and palate (2,3,4,5,6,7). The malformation is an infirmity due to the multiple consequences such as: esthetical appearance, psychological effect, defective speech, malnutrition and the associated pathologies.

The surgical treatment of CLP represents the most important part of the treatment process, due to the fact that this intervention corrects the esthetical appearance of the child, a very important step for the family, for the social insertion of the patient and last but not least it prevents otitis and respiratory infections, it assures normal speech, it corrects the dentition, which will lead to a healthy nutrition, therefore a life that is closer to normal.

Due to the complexity of this malformation and the multiple long-term implications, multiple treatment schemes have been created as well as numerous

surgical methods for each step of the treatment. None of the treatment schemes has proven to be ideal.

Key words: cleft lip and palate, surgical treatment.

Method and Material

There has been a prospective study on a lot of 63 patients who suffered from CLP, treated in the Pediatric Surgery and Orthopedics Department of the “Sf. Maria” Children Hospital, in Iasi, between January 1995 – December 2004. From this lot, 9 (14,29%) patients had a cleft lip and 54 (85,71%) had a cleft lip and palate. 41 (65,08%) patients had the cleft on the left side, 13 (20,63%) on the right side, and 9 (14,28%) patients had bilateral clefts. 34 (53,97%) patients were boys and 29 (46,03%) were girls. Most of the patients were operated at the age of 5-6 months. All the patients were operated by the author.

Results and Discussions

The study was a prospective study, which took place between January 1995 – December 2004. I have utilized the Onizuka technique for the cheilo-plasty in all the patients. In 3 cases I have utilized the first version of the surgical technique, published by the author in 1980 (8), in order to use, later on, only the version modified by Onizuka, published in 1991 (9) (fig. 1, A and B).

I have used the first version of the Onizuka technique, a method that resembles the Millard technique modified for extending the outer margin of the cleft, only in 3 cases, with a satisfying result, but later on using the revised method by Onizuka. The results have improved, especially the esthetical aspect of the nostril. As a result I have used, since then, this technique in most situations.

As well as in other techniques, a pre operator drawing is needed, based on the contour lines of the upper lip. Although it is an extremely precise method, conceived for complete cleft lip and palate, knowing the meaning and exact position of every dot, the method can be used for any kind of cleft. Even though the author makes no reference in utilizing his technique in bilateral CLP, I have used this method in bilateral clefts either in two steps, or one.

Regardless of the anatomo-clinic shape and the timing of the used surgical treatment used for CLP, in most of the patients (41 – 65,08%) the cheiloplasty was practiced between 4-6 months of age. The extremities were between 3 months and 3 years due to certain different situations: associated pathologies (most frequently were respiratory affections – infections of the upper airways, bronchitis, pneumonia

and bronchopneumonia; dystrophy, anemia, acute ORL affections), associated congenital malformations (cardiac malformations, Pierre Robin syndrome). There were, however, many uncontrollable social difficulties, which prevented the families to consult a doctor in time, or due to the lack of education have unallowably delayed the starting or continuing of the treatment.

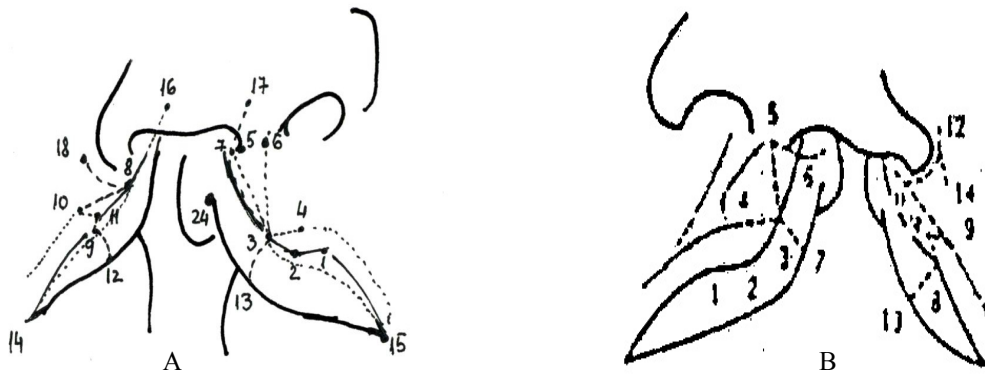


Fig. 1. The Onizuka Method (A. First version; B. Second version – the basic guide points for marking the incisions).



Fig. 2. A 5 year old patient with a CLP, operated using the Onizuta technique (first version).



Fig. 3. 5 months old patient, pre operator aspect.



Fig. 4. Same patient – imediatly post operation aspect.

The presented results are guidelines. When the mother leaves the maternity, instead of respecting the given advice to meet with the pediatric surgeon for a preliminary consult, and returns for the operation (cheiloplasty) with the child at 1 year old, or from different social/financial reasons returns for the uranostaphilography at the age of 5 years or comes at the age of 15 years for an orthodontic treatment it is difficult to talk about therapeutic protocols.

As a conclusion, I consider, as well as other authors, that the Onizuka technique has many advantages compared to other cheiloplasty methods: clear and precise identification of all the anatomical guides that define the pre operator scheme; post operator scars do not cross the nostril gap; the use of a triangular flap used in the reconstruction of Cupidon's bow creates a natural philtrum; this flap does not perpendicularly cross the philtrum, like in the other techniques and as a result lower the frequency of hypertrophic scars; the tip of the triangular flap,

positioned correctly, leads to the accentuation of the philtrum's fossa; by aligning the incisions, the philtrum's margins are not destroyed, instead it overlays enhancing the contour; it corresponds with the groove of the upper lip (8,9,12). One of the disadvantage of using this technique, however major, is the fact that the method is precise, rigorous and as a result it must be perfectly known, and the pre operator drawing must be prepared in detail, because a wrong cut in a flap leaves little room for errors, unlike the Millard technique which allows correcting, on the way, the different errors (8,9,12).

Regarding the esthetical and functional results, I believe that the Onizuka technique offers plenty of satisfactions to the patients, as well as the surgeons, being a good choice in the treatment of this pathology, fact exemplified by the evolution of patients over time.

However, in spite of the already achieved results regarding the surgical methods, the results of CLP treatments, unilateral and bilateral, are not universally

fit. Particularly, deficiencies of the growth and evolution of the palate appear even if the patients are treated by experimented teams. All the factors that significantly contribute, over time, to these unfavorable results remain, for the time being, obscure. Regardless of the type of the chosen treatment, surgeons cannot explain why that particular method, used in similar clefts, at the same age, has different results. Why some cases have a normal evolution, with a good facial aspect, palate shape, and dental

occlusion, whilst other results are of a lesser quality, is still an enigma. This is why a series of questions is raised: Do the different result have any connection to the dexterity of different surgeons? Are there significant differences in the palate deformation in the moment of the uranostaphilography that force every cleft to be differently classified? Does the pre surgical orthopedic treatment really influence the palate growth, or does it just help with repositioning the palate segments? (8,9).

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