

The Role of Feeding Plate in Reducing Some Nutritional and Health Problems Accompaniment to Cleft Palate Infants

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Summary

The present study was designed to indicate the influence of the feeding plate on the nutritional and general health problems of the isolated cleft palate infants. For this study fourteen infants were taken, their ages between one day to one week, referred from cosmetic surgery and palate center to cleft lip and palate rehabilitation center in institute of technical medical / Baghdad for feeding plate purpose . Four infants put them as normal group; all those infants were subjected during (6th) month to evaluate the body weight, feeding problem and the respiratory infection. According to tables and figures this study showed a gradual improvement in nutritional problem including (feeding problem, body weight) and health problem (such as respiratory problem) of the cleft palate infants after the use of feeding plate starting from (4th) to (6th) month compared to normal group.

Introduction

Isolated cleft palate is amal formation of the intra-oral cavity which varies in shape, size and extent from a slight variable notching in soft palate to complete cleft of the soft palate (1). A cleft of the palate appears to fuse and the tongue fall back posterior to pharyngeal cavity resulting in obstruction of the airway leading to the respiratory problems as well as feeding become very difficult which can lead to malnutrition and starvation of the untreated infants(2,3).In order to eliminate all these health problems. We planned to study the effect of feeding plate on the nutrition and health problem of the isolated cleft palate infants.

Material and Method

In this study (14) infants (6 males, 8 females) referred from cosmetics surgery and palate center /health ministry in Baghdad to our cleft lip and palate rehabilitation center for feeding plate purpose ,their ages were between one day to one week .

For all these infants except the normal infants ,primary impression were taken by alginate material and cast the impression by plaster, construct the special tray .took the alginate impression and cast it by stone ,then the feeding plate were constructed for each infants (fig-1)

The feeding plate used by infants day and night.

For each infant the following points were taken into consideration and checked during (6th) month (6th) month:

- Feeding problems.
- Body weight monthly.
- Respiratory problem

The severities of the problem were graded as the following:

Grade: S \longrightarrow severe
 M \longrightarrow medium
 Sli \longrightarrow slight
 N \longrightarrow Normal

- Four infants used as normal group (2 Male and 2 Female).

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Results

The study showed that:

- The feeding process for isolated cleft palate infants were very difficult during the first (3) month (1st, 2nd, 3rd), but this problem gradually improved during the (4th, 5th, 6th) months then after (6th) month, the infant became close to normal as in control group(table 1)

(Table 1) demonstrate the degree of feeding problem for deferent groups used in this study

Sex	Group	No.*	Feeding problem					
			1 st month	2 nd m	3 rd m	4 th m	5 th m	6 th m
Male	1	1	S	S	M	M	Sli	N
	1	2	S	M	M	Sli	N	N
	1	3	M	M	Sli	N	N	N
	1	4	Sli	N	N	N	N	N
	1	5	Sli	Sli	N	N	N	N
	1	6	Sli	N	N	N	N	N
Female	1	7	M	M	Sli	N	N	N
	1	8	S	M	Sli	N	N	N
	1	9	M	M	Sli	N	N	N
	1	10	S	S	M	M	Sli	N
	1	11	M	M	Sli	N	N	N
	1	12	N	N	N	N	N	N
	1	13	Sli	N	N	N	N	N
	1	14	M	Sli	N	N	N	N

No*: number

- The body weight in the isolated cleft palate were decreased during the first (3) months and started to increase gradually from (4th, 5th, 6th) month then after sixth month the isolated cleft palate infants started to be normal in body weight close to normal group(table 2-A).

(Table 2-A) demonstrate the infant body weight for deferent groups used in this study

Sex	Group	No	Body weight (Kg)					
			1 st month	2 nd m	3 rd m	4 th m	5 th m	6 th m
Male	1	1	2.5	2.0	2.5	3.5	4.1	6.1
	1	2	2.7	1.8	2.2	3.6	4.1	6.1
	1	3	2.8	2.1	3.0	4.0	4.4	6.3
	1	4	2.6	2.3	3.1	4.1	4.7	6.1
	1	5	2.5	2.0	2.7	3.7	4.8	6.2
	1	6	2.7	2.1	2.8	3.8	4.9	6.3
Female	1	7	2.8	2.2	2.9	3.7	5.0	6.1
	1	8	2.4	1.9	2.5	3.4	5.1	5.9
	1	9	2.5	1.8	2.4	3.5	5.2	5.8
	1	10	2.6	2.0	3.0	3.3	4.9	5.7
	1	11	2.7	2.1	3.2	3.6	5.1	6.1
	1	12	2.5	2.2	3.4	3.8	5.2	6.2
	1	13	2.6	1.9	2.7	4.1	5.5	6.3
	1	14	2.7	2.0	2.8	4.2	5.6	6.3

(Table 2-B) demonstrate the normal infant body weight*

Sex	Group	No.	Body weight (Kg)					
			1 st month	2 nd m	3 rd m	4 th m	5 th m	6 th m
Male	2	1	3.4	3.9	4.4	4.9	6.8	7.3
	2	1	3.5	4.0	4.5	5.0	7.0	7.5
Female	2	1	3.2	3.7	4.2	4.7	6.4	6.9
	2	1	3.3	3.8	4.3	4.8	6.6	7.2

*: (11)

- The respiratory problem (difficult in breathing) of the isolated cleft palate infants were medium to severe in the first (3) months and some of them hospitalized in the intensive care due to the suffocation and difficulty in swallowing, then gradually improved during the last (3) months and after (6) month, the infants became close to normal as in control group (table 2-B), (table 3)

(Table 3) demonstrate the degree of respiratory problem for deferent groups used in this study

Sex	Group	No	Respiratory problem					
			1 st month	2 nd m	3 rd m	4 th m	5 th m	6 th m
Male	1	1	S	S	M	M	S	N
	1	2	S	M	M	Sli	N	N
	1	3	M	M	Sli	N	N	N
	1	4	M	N	N	N	N	N
	1	5	M	M	Sli	N	N	N
	1	6	S	M	Sli	N	N	N
Female	1	7	M	M	Sli	Sli	N	N
	1	8	S	S	S	M	M	Sli
	1	9	M	M	Sli	Sli	N	N
	1	10	M	N	N	N	N	N
	1	11	M	Sli	N	N	N	N
	1	12	N	N	N	N	N	N
	1	13	M	M	Sli	Sli	N	N
	1	14	S	S	M	M	Sli	N

Discussion

In the isolated cleft palate most of the infants complained from difficulty in the feeding process, this might be due

to the chin retraction backward ,small mandible and tongue position in the pharyngeal cavity which obstruct the air and feeding ways and during the sucking the milk stasis in the pharyngeal cavity and this will lead to oro-pharyngeal disorganization and the infant can't swallow properly or breath properly .

So some of the stasis milk will go to the esophagus and other goes to the lung and nasal cavity which will cause nutritional and health problems and the body weight will gradually decrease

then lead to starvation (4 , 5, 6) (fig 2). so the curing from these problems done by continuous sucking exercise with feeding plate which will stimulate the tongue to move from pharyngeal cavity to grow forward in order to create normal jaws and gradually all these problem will be eliminated (7,8,9,10) .

All these researches were in agreement with this study in which the infants became close to normal and nearly free from previous problems after (6th) month use of the feeding plate



Figure -1- demonstrate the feeding plate used by cleft palate infants



Figure -2- demonstrate malnutrition for these infants who had isolated cleft palate due to retrognathia and the tongue sit in the pharyngeal cavity

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دور صفحة الرضاعة في تقليل بعض المشاكل التغذوية والصحية التي ترافق شق الحنك الولادي للرضع المصابين به

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المستخلص

صممت هذه الدراسة لبيان أثر استخدام صفحة الرضاعة على المشاكل التغذوية والصحية للرضع المصابين بشق الحنك الولادي (سقف الفم) ، حيث استخدم لهذا الغرض (14) رضيع بعمر (1-7) أيام مصاب بشق الحنك الولادي ، تم إرسالهم من مركز الجراحة التكوينية لشق الشفة الولادي الى مركز تأهيل شق الشفة والحنك الولادي في المعهد الطبي التقني في بغداد لأجل عمل صفحة الرضاعة ، حيث تم استخدام أربعة أطفال رضع بحالة اعتيادية كمجموعة ضابطة للمقارنة .

تم اخضاع جميع الرضع طيلة (6) أشهر الى فحوصات لقياس الوزن وتقييم الاطفال على الرضاعة والمشاكل الصحية للجهاز التنفسي . أظهرت نتائج هذه الدراسة وحسب الجداول والاشكال حصول تحسن تدريجي بالمشاكل التغذوية والصحية للرضع بعد استخدام صفحة الرضاعة (اذ انخفضت مشاكل التغذية (الرضاعة) مما سبب زيادة تدريجية في الوزن ، كما انخفضت اصابات المجاري التنفسية) ابتداءً من الشهر الرابع وحتى الشهر السادس بالمقارنة مع المجموعة الضابطة .