



STUDY OF FEEDING PATTERN IN INFANTS WITH CLEFT LIP AND CLEFT PALATE IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction- Feeding in babies with cleft lip and cleft palate is challenging one, especially in primimothers. It includes holistic approach involving Pediatricians, Dental surgeon, nursing staff. Due to the feeding difficulties and faulty feeding techniques many babies will not gain appropriate weight gain. With advances in management, there is decrease in difficulties in feeding and chances of aspiration, infections and eventually morbidity. **Aims and Objectives-** To observe feeding pattern & weight gain in infants with cleft lip and cleft palate aged less than 6months. **Materials and Method-** Retrospective observational study in which 60 infants aged less than 6 months with cleft lip and cleft palate, who visited SDM Hospital Pediatric Department and SDM Dental College between June 2017 to December 2017 were included in the study and data were obtained in predesigned performa regarding feeding pattern and weight gain at first presentation, 3rd and 6th month. **Results** – In our study 78.3 % (47) were unilateral and 21.7%(13)were bilateral cleft. 58.3%(35) were pallada fed, 16.6%(10) were bottle fed & 25%(15) were spoon fed. 28.33%(17) of infant were fed with both formula and Expressed Breast milk, 23.3%(14) cows milk fed, 1.6%(1) goats milk and 36.6%(22) were formula fed. 8.3%(5) were Expressed breast milk fed. Infants with 64.28% (9) cows milk fed, 35.29%(17) formula with expressed breast milk fed, 100%(1) goats milk fed, 31.8%(22) formula fed not had appropriate weight gain at 6month on observation. 62.85% (22) pallada fed infants, 80% (4) with Expressed breast milk fed, 11.1%(11) formula with Expressed breast milk fed infants had appropriate weight gain. **Conclusion-** Poor feeding pattern are relatively common in infants with cleft lip and cleft palate. EBM fed babies with pallada have good weight gain compared to spoon or bottle fed babies with cow's and formula fed babies.

KEYWORDS : Cleft Lip, Cleft Palate, Expressed Breast Milk, Pallada Feed

INTRODUCTION

Cleft lip and palate (CLP) are common birth defects that affect the lip, palate, or both¹. Cleft lip and cleft palate are one of the commonest developmental defects in the maxillofacial region with an incidence of 0.28 to 3.74 per 1000 live births globally². In India, the incidence of cleft lip and palate ranges from 0.25 to 1.56 per 1,000 live births³. The infant born with a cleft has similar nutritional requirements as other infants born without a cleft as long as no other systemic issues are involved⁴.

Feeding in cleft babies includes holistic approach involving pediatricians, dental surgeons & nursing staff. Due to the feeding difficulties and faulty feeding techniques many babies will not gain appropriate weight gain. With advances in management, there is decrease in feeding difficulties, aspiration, infections and eventually mortality.

Aims and Objectives

1. To observe feeding patterns in infants with cleft lip and cleft palate aged less than 6months.
2. To monitor weight gain in infants with cleft and cleft palate ages less than 6month

MATERIALS AND METHOD

It is a retrospective observational study.

Place of Study- Study was conducted in Craniofacial unit of SDM Dental College and Department of Pediatrics SDM College Of Medical Sciences and Hospitals, Dharwad

Duration of Study- 6 months, From June 2017 to December 2017

Inclusion Criteria- All infants with cleft lip and cleft palate aged less than 6months

Exclusion Criteria- Babies with Syndromic features, Major congenital anomalies and infants more than 6months

Data Collection- Purpose of the study was explained to the parents. Data was collected in predesigned performa regarding feeding pattern and weight gain at first presentation, 3rd and 6th month after obtaining informed consent from parents. Expressed breast milk with pallada was the mode of feeding advised to parents and care takers as an institutional policy.

RESULTS

Table 1 - Types of Cleft in Infants

TYPE	TOTAL	CLEFT LIP	CLEFT PALATE	BOTH CLEFT LIP & CLEFT PALATE
UNILATERAL	47 (78.3%)	11 (18.3%)	O (0%)	36 (60.0%)
BILATERAL	13 (22.7%)	O (0%)	O (0%)	13 (21.6%)

In our study it was observed that Out of 60 infants 78.3%(47) were unilateral cleft lip and cleft palate and 22.7%(13) had bilateral cleft lip and cleft palate.

Table 2- Type of Weight Gain in Different Pattern of Feeding at 6month in Infants

TYPE (Number)	10 TO 20GM/DAY	5 TO 10GM/DAY	<5GM/D
BOTTLE (10)	0 (0%)	6 (60%)	4 (40%)
PALLADA (35)	2 (5.7%)	20 (57.14%)	13(37.14%)
SPOON (15)	0 (0%)	8 (53.33%)	7 (46.66%)

In our study babies fed with pallada had adequate weight gain (10 to 20gm/day) compared to babies fed in bottle and spoon fed.

Table 3 - Weight Gain in Different Types of Milk Fed Infants at 6 Month in Infants

TYPE OF MILK	10 TO 20GM/DAY	5 TO 10GM/DAY	<5GM/DAY
COWS MILK (14)	0 (0%)	5 (35.71%)	9 (64.28%)
GOAT MILK (1)	0 (0%)	0 (0%)	1 (100%)
FORMULA FED (22)	0 (0%)	15 (68.18%)	7 (31.81%)
EXPRESSED BREAST MILK FED (5)	1 (20%)	3 (60%)	1 (20%)
FORMULA WITH EXPRESSED BREAST MILK (17)	1 (5.88%)	10 (58.82%)	6 (35.29%)

In our study infants fed with Expressed Breast milk had adequate weight gain compared to other infants not fed with breast milk. Infant fed with goats milk had poor weight gain.

DISCUSSION

Out of 60 infants, we had 78.3% (47) unilateral cleft and 22.7% (13) were bilateral cleft. 18.3% (11) had unilateral cleft lip and 60% (36) had unilateral cleft lip and palate, 21.6% (13) had bilateral cleft lip and palate.

Among babies fed with pallada, 5.7% (2) babies had adequate weight gain. 57.14 (20) babies had weight gain of 5 to 10gm/day and 37.14% (13) had poor weight gain.

In bottle fed babies none of the babies had adequate weight gain. 60% (6) had weight gain of 5 to 10gm/day and 40% (4) had poor weight gain.

In spoon fed babies none of the babies had adequate weight gain. 53.33% (8) had weight gain of 5 to 10gm/day and 46.66% (7) had poor weight gain.

Out of 5 babies who were given expressed breast milk, 20% (1) had adequate weight gain and 60% (3) babies had weight gain of 5 to 10gm/day & 20% (1) had poor weight gain.

Out of 22 babies on Formula feeds 68.18% (15) had weight gain of 5 to 10gm/day & 31.81% (7) had poor weight gain.

In infants with mixed feeding with formula and expressed breast milk 5.88% (1) had adequate weight gain of 10 to 20gm/day, 58.82% (10) had weight gain of 5 to 10gm/day and 36.29% (6) had poor weight gain.

In cows milk feeding 35.71% (5) babies had weight gain 5 to 10gm/day and 64.28% (9) had poor weight gain.

1 infants who had received goats milk had poor weight gain.

Our study substantiates babies fed with expressed breast milk by pallada had good weight gain compared to other feeding patterns. It was also observed that many infants were fed with diluted cows milk.

Nasal regurgitation was the most commonly reported behavior at each follow up. We noticed cleft babies had increased incidence of infections like acute gastroenteritis, otitis media, respiratory tract infections.

Infants who were bottlefed, fed with goats milk and cows milk and who had prolonged feeding time had poor weight gain.

The infant born with a cleft has similar nutritional requirements as other infants born without a cleft, as long as no other systemic issues are involved^{6,7}. Inadequate feeding causes malnutrition, which eventually leads to anemia, hypoproteinemia, and low weight⁸.

Ravi et al. comparing the efficacy of the three feeding techniques such as paladai fed, bottle fed, and spoon fed, in improving the weight gain pattern of children. The result depicted that mean weight gain among paladai feeding was better than the bottle or spoon-feeding⁹. In our study also infants fed with pallada had adequate weight gain.

Kim et al. compared bottle with the usual nipple and feeding with a spoon, cup, or syringe. Amount of oral intake for the first 6 days (from the day of surgery), and relative weight gain at 1 and 2 months were compared¹⁰. Where babies fed with spoon or cup had satisfactory weight gain.

Amstalden-Mendes et al., evaluated the resources used in feeding; and their correlation to the child's weight. They highlighted that educational program for nonspecialized health professionals, as well as regular pediatric follow-up and specialized multi-professional teams, could improve nutritional intake and could move the schedule for surgical procedures forward¹¹.

Ize-Iyamu and Saheeb, compared syringe-fed and cup-and-spoon-fed groups with normal breast or bottle-fed babies and their weight gain from birth to 6, 10, and 14 weeks. The result showed that syringe-fed CLP babies fed breast milk had a significant difference in weight gain (0.7 and 0.8 kg) compared with cup-and-spoon-fed babies (0.4 kg), at 10 and 14 weeks, respectively¹².

In our study we also noticed that many babies were incompletely vaccinated. Due to non availability of the vaccination card at each visit

, statistics couldn't be obtained. Our study has certain limitations like - Anthropometric measurements like head circumference and length couldn't be obtained in all cases. Data on associated complications couldn't be obtained.

CONCLUSION

Poor feeding pattern are relatively common in infants with cleft lip and cleft palate. EBM fed babies had good weight gain compared to cows milk/formula fed infants.

Pallada fed infants had good weight gain compared to spoonfed or bottle fed infants. Hence proper feeding techniques with expressed breastmilk needs to be encouraged. Early detection and referral by the primary physicians goes long way in management of infants with cleft lip and palate.

Adequate weight gain with expressed breast milk and pallada has great impact on correction of the cleft and post surgical improvement.

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