ORAL HYGIENE OF DOWN SYNDROME CHILDREN BORN TO ELDERLY PRIMIGRAVIDA

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Abstract

Materials and methods: Prospective study of reproductive age group of female patients in the range of 30-39 years were included in the study who had conceived for the first time -elderly primigravida were obtained from Navodaya hospitals during the period of 2017 to 2019 in Karnataka who had bad obstetric history with high risk of complications of hypertension, fibroids, malpresentation, malposition, prolonged labour, premature labour and perinatal mortality. Few of the elderly primigravida had past history of anaemia, diabetes and heart diseases. Children born to them who were suspected to be suffering from Down syndrome were evaluated genetically. Children suffering from Down syndrome who had bad oral hygiene comprising periodontal disease, dental caries, facial and dental anomalies and other clinical presentations like compromised immune system, hypotonia, seizures were included in the study of age ranging from 01-10 years. Total data obtained for a period of 3years were 108 children of which 62 were boys and remaining girls 46. Periodontal disease was the most common oral health problem in children with Down syndrome born to elderly primigravida with bad obstetric history followed by dental caries.

Results: In the genetic evaluation the children who were suffering from Down syndrome found out to be was standard trisomy (83.6%), comparing to translocation¹ and mosaicism. Majority of the children presented with periodontal disease were 33 (30.6%), of which 23 boys and remaining girls. Dental caries 17 (15.7%), boys presented were 10 and the remaining cases were girls (07).

Conclusion: Majority of the Down syndrome children presented with periodontal disease and caries teeth apart from other clinical presentations.

Keywords: Elderly primigravida, Down syndrome, bad oral hygiene.

Introduction

Elderly primigravida with increased high risk of pregnancy is on the raising tendency the reasons includes both maternal and paternal age, high socioeconomic, life style, early marriage but late conception, high ambition for achieving educational goal and remarriage. In the present scenario due to lack of time and day to day stress, age of the female in conceiving is increasing which is known as elderly primigravida. But according to the Indian statistics the maternal age is 30years. Tuck et al expressed that the age limits are arbitrary, international standard FIGO in 1951 fixed as the lower age limit for elderly primigravida by 35 years². Dutta in his studies explained the Indian standard is fixed at 30 years³. Pre-eclampsia and eclampsia were seen more commonly in elderly primigravida which was observed by Bobrowski and Bottoms⁴. Elderly primigravida has tendency of increased risk for placental abruption, preterm labour which was explained by Mukhapadhyay et al is 29.68%⁵. Higdon

explained the still birth rate too increased in elderly primigravida⁶. Common complications observed in the foetal were low birth weight, congenital anomalies, like Down syndrome, anencephaly and hydrocephalus. Periodontal disease is the most common oral health problem in children with Down syndrome born to elderly primigravida with bad obstetric history.

Methods: The present study is prospective study conducted in Navodaya Hospital, Karnataka. Prospective study of reproductive age group of female patients in the range of 30-39 years were included in the study who had conceived for the first time -elderly primigravida were obtained from Navodaya hospitals during the period of 2017 to 2019 in Karnataka who had bad obstetric history.. Children suffering from Down syndrome who had bad oral hygiene comprising periodontal disease, dental caries, facial and dental anomalies and other clinical presentations like compromised immune system,

hypotonia, seizures were included in the study of age ranging from 01-10 years.

Table 1: Age of the Patients

Age group	Number of patients	Percentage (%)
30-32	283	55.7
33-34	98	19.2
35-36	73	14.4
37 and above	54	10.7
Total	508	100

Few of the elderly primigravida had past history of anaemia, diabetes and heart diseases.

Table 2: Associated complications

Diseases	Number of patients	Percentage (%)
Anaemia	183	36.02
Diabetes	106	20.87
Heart disease	15	2.95
Without complications	204	40.16
Total	508	100

High risk of complications of hypertension, fibroids, malpresentation, malposition, prolonged labour, premature labour and perinatal mortality are associated with the elderly primigravida.

Table 3: Obstetric complications

Diseases	Number of patients	Percentage (%)
Hypertension	101	19.88
Fibroid	73	14.4
Malpresentation	84	16.53
Malposition	16	3.15
Prolonged labour	40	7.87
Premature labour	09	1.77
Perinatal mortality	01	0.19
Uncomplicated cases	184	36.22
Total	508	100

Discussion:

As age of women increases, chronic illnesses such as hypertension and diabetes are risk factors for adverse obstetric outcomes⁷. Increased perinatal morbidity and mortality was studied by Morrison⁸. With increased age complications were also reported by MacDonald and MacLennan⁹. Grimes also demonstrated that an increased perinatal mortality in older pregnant black women¹⁰. Stanton demonstrated prolonged labour among older pregnant women was in increasing trend¹¹. Advancing age showed an increase in prolonged second stage that was explained by Friedman¹². Booth and William found the extended period of labour to be slightly but not significantly prolonged in elderly primigravida compared to that of younger primigravida¹³. The periodontal disease is due to many reasons as immunological deficiency, poor oral hygiene, fragile periodontal tissue, early senescence, and poor masticatory function, it was found to be short

tooth roots which lead to tooth mobility and subsequent loss¹⁴.

Table 4: Total number of dental cases

Diseases	Number of patients	Percentage (%)
Periodontal diseases	33	30.6
Caries	17	15.7
Without complications	58	53.7
Total	108	100

In the present study, majority of the children presented with periodontal disease 33 (30.6%) and dental caries 17 (15.7%).

Table 5: Distribution of cases among boys and girls

Diseases	Boys	Percentage	Girls	Percentage
Periodontal diseases	23	21.29	10	9.26
Caries	10	9.26	07	6.48
Without complications	38	35.18	20	18.52

When examining children or adolescents under the age of 10, only bleeding gums and calculus were considered. The CPI was coded by as: 0 = healthy; 1 = bleeding; 2 = calculus. Caries was measured using the DMFT/dmft index according to WHO criteria. Oral hygiene status was assessed using the Simplified Debris Index (DI-S), as described by Greene–Vermillion.

Table 6: Values of Debris index (DI) Down syndrome children

	Number of patients	Percentage (%)
Very good oral hygiene	27	54.0
Good oral hygiene	13	26.0
Poor oral hygiene	04	8.0
Very poor oral hygiene	06	12.0
Total	50	100

The present study is prospective study of Down syndrome children with the age between 01-10 years who were born to elderly primigravida with high risk of bad obstetric history. These children majorly suffered from periodontal disease and caries apart from other clinical complications

Results:

In the genetic evaluation the children who were suffering from Down syndrome found out to be standard trisomy (83.6%), comparing to translocation¹ and mosaicism. Majority of the children presented with periodontal disease were 33 (30.6%), of which 23 boys and remaining girls. Dental caries 17 (15.7%), boys presented were 10 and the remaining cases were girls (07). The present study was conducted to make awareness of the vulnerable dental disease to the children affected by Down syndrome.

Conclusion:

Majority of the Down syndrome children presented with periodontal disease and caries teeth apart from other clinical presentations.

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