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ORAL HYGIENE STATUS IN CRETINISM PATIENTS

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ABSTRACT

INTRODUCTION

Cretinism is a condition of severely stunted physical and mental growth owing to untreated congenital deficiency of thyroid hormone(congenital hypothyroidism) usually owing to maternal hypothyroidism. Dental characteristics of hypothyroidism are thick lips, a large sized tongue,etc. Delayed eruption of primary and permanent dentitions can be observed. This study deals with the Oral hygiene status in cretinism patients.

MATERIALS AND METHODS

A questionnaire was prepared and distributed among the undergraduate and postgraduate doctors in Saveetha Dental Hospital and nearby clinics. A total of 70 participants attended this survey. The questionnaire was based on the awareness and treatment for oral hygiene in cretinism patients.

RESULTS:

60% of the respondents were aware of cretenism.56% were aware of Stunted physical and mental growth.52% come across any cretinism patients during practice.87% were aware of treating cretinism patients is different from normal patients.46% were aware of cretinism patients have compromised periodontal health - bone resorption.68% feel orthodontic treatment is necessary for treating cretenism patients.(Tabe 1)

CONCLUSION

Cretinism patients usually vary from normal children in their external appearance and most of them face difficulty in phonetics and mastication.Hence, special care must be taken while treating them.Malocclusion is misalignment or incorrect relation between the teeth of two dental arches.In cretinism patients,although the teeth reach normal size ,they are frequently crowded due to the small size of the jaws.Hence malocclusion and oral hygiene should be diagnosed and treated in cretinism patients.Correction of malocclusion may reduce risk of tooth decay and help relieve excessive pressure on the temporomandibular joint.

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KEYWORDS: *Hyperthyroidism, oral hygiene , cretinism,misalignment, tooth decay,treatment.*

I. INTRODUCTION

Hypothyroidism in children is called as cretinism. Thyroid dysfunction is the second most common glandular disorder of the endocrine system (after diabetes mellitus) and is increasing, predominantly among women[1,2,3,4,5] Hypothyroidism is defined by a decrease in thyroid hormone production and thyroid gland function.[6,1,4] Hypothyroidism can occur as a congenital or acquired condition.[6,7,8] Neonatal screening programs in many areas of the world show that hypothyroidism is present in 1 of every 4000 newborns.[7,9] The incidence of hypothyroidism is 10 times higher than average in iodine-deficient areas.[7] Most infants with permanent congenital hypothyroidism have thyroid dysgenesis: ectopic, hypoplastic or thyroid agenesis. The acquired form may follow thyroid gland or pituitary gland failure[7]

Childhood hypothyroidism known as cretinism is characterized by thick lips, large protruding tongue (macroglossia), malocclusion and delayed eruption of teeth.[1] Neonatal cretinism is characterized by dwarfism; overweight; a broad, flat nose; wide-set eyes; thick lips; a large, protruding tongue; poor muscle tone; pale skin; stubby hands; retarded bone age; delayed eruption of teeth; malocclusions; a hoarse cry; an umbilical hernia; mental retardation.[6,7,8] All of these characteristics can be avoided with early detection and treatment.[7] Neonatal screening is not well established in countries like India.This is the reason for delayed diagnosis of congenital hypothyroidism.[9]

Availability of therapy with low cost and a robust screening test such as TSH is essential to start a screening program through out the nation in order to prevent the most preventable cause of mental sub-normality[10] The whole world is looking at India as to why they are not conducting the screening test, still as a country as congenital hypothyroidism is such an important Public Preventive Program of International significance.[11] One of the major characteristics seen in cretinism patients are oral disorders among which malocclusion is a prevalent one.

Malocclusion is a condition characterized by abnormal relationships among the teeth or dentitions. It is one of the most common problems affecting the human oral cavity along with caries, gingivitis, and dental fluorosis [12]. It leads to symptoms such as deficient chewing, speech articulation, undesirable development of the jaw bones [13]. Although poor oral health is not life-threatening, it can be considered as a public health problem due to its high prevalence and prevention and treatment possibilities.[14,15]. poor oral Heath are the result of orofacial adaptability to various etiological factors, which result in various implications such as psychosocial problems related to impaired dentofacial aesthetics, disturbances of oral function, such as mastication, swallowing and speech and greater susceptibility to trauma and periodontal disease[16,17]

poor oral health may have a stronger and long lasting impact on the person's life than other oral health disorders because it causes poor speech capability and poor mastication.[18] Moreover,children with poor oral hygiene can be bullied at school due to their dental appearance which lowers their self esteem.[19,20] Certain studies have indicated that malocclusion in primary dentition leads to malocclusion in permanent dentition[21,22] If untreated, over time, oral hygienic defects can vary from mild to severe, with varying impacts on aesthetics and/or function.[23]

II. MATERIALS AND METHOD

The study was based on a questionnaire that aids in accessing the knowledge,attitude,practise on oral hygiene status in cretinism patients. A well designed questionnaire was prepared which accessed the questions on oral hygiene condition in cretinism patients, its causes, treatment and prevention. A total of 100 doctors participated in this survey. The survey was conducted among the undergraduate and postgraduate doctors in Saveetha Dental College and Hospitals and nearby clinics. Questionnaires were prepared and distributed to them. They were asked to answer the questionnaire.

STRUCTURE OF THE QUESTIONNAIRE

The study involved a well-designed and simple questionnaire which consists of 10 questions based on the knowledge,awareness and practise on oral hygiene status in cretinism patients.The sample of the questionnaire and the responses with number is as follows.

S.NO	QUESTIONS	RESPONDS	NO. OF RESPONDENTS
1.	Are you aware of cretinism?	a)Yes b)No	60 40
2.	What do you think cretinism is?	a)Stunted physical and mental growth b)Developmental disorder c)Immunological	56

		disorder d)All of the above	23 5 16
3.	Have you come across any cretinism patients during your practice?	a)Yes b)No	52 48
4.	If Yes,how many patients have you come across?	a)1- 10 b)10- 50 c) More than 50 patients	45 7 0
5.	Have you come across any defect in oral hygiene status in cretinism patients?	a)Yes b) No	18 82
6.	Is treating cretinism patients different from normal patients?	a)Yes b) No	87 13
7.	Does eruption of teeth delay in cretinism patients?	a)Yes b) No	48 52
8.	What do you think is the characteristics of cretinism?	a) Thick lips,large protruding tongue(macroglossia) b) Malocclusion	23

		c) Delayed eruption of teeth d) All of these	34 28 15
9.	Do cretinism patients have compromised periodontal health - bone resorption?	a) Yes b) No	46 54
10.	How will you treat any defect in cretinism patients?	a) Orthodontic management b) Extraction and replacement c) Surgical management d) All of the above	68 3 7 22

III. Results:

60% of the respondents were aware of cretenism.56% were aware of Stunted physical and mental growth.52% come across any cretinism patients during practice.87% were aware of treating cretinism patients is different from normal patients.46% were aware of cretinism patients have compromised periodontal health - bone resorption.68% feel orthodontic treatment is necessary for treating cretenism patients.(Tabe 1)

IV. DISCUSSION:

Thyroid-releasing hormone (TRH), secreted by the hypothalamus, induces the secretion of thyroid-stimulating hormone (TSH) and any abnormalities in this cause hypothyroidism and hyperthyroidism.[24] Obtaining

an understanding of thyroid dysfunction is of significant importance to the dentist for two reasons. First, the dentist may be the first to suspect a serious thyroid disorder and aid in early diagnosis.[1] Hypothyroidism occurs in about 1% to 2% of the general population.[7] It is 5 to 6 times more common than hyperthyroidism.[7,25] Hypothyroidism can occur as congenital or acquired and neonatal screening test helps in accessing it[7,8,26]

Babies who are born with underactive thyroid function have a disorder known as congenital hypothyroidism.[9] Neonatal screening programs conducted in many nations shows that 1 in every 4000 new horns are affected by congenital hypothyroidism.[7,9]Congenital hypothyroidism occurs with an incidence of 1:3000-4000.[3,27] But in our country (India), the incidence is still higher (nearly 1:1000). [9,11] The usual cause of this condition is the failure of the thyroid gland to develop during gestation.[10] At birth, the infants look normal and then slowly over period of weeks, the clinical features of hypothyroidism appear.[9,27] However, in our case the patient gained abnormal weight after 9 years of age and it was diagnosed to be primary hypothyroidism. The accumulation of subcutaneous fluid (intracellularly and extracellularly) is usually more pronounced in patients and TSH was noted within 5 months of treatment with thyroxine.[7]

Cretinism patients are often prone to malocclusion, oral hygienic defects, tooth decays due to stunted mental growth. Cretinism patients must be given extra care when treatment is given. From our study, it is clear that 40% of the dentists are unaware of cretinism and its sequentials. And the dentists who are exposed to cretinism have come across a very few cretinism patients. Many cretinism patients are not brought for dental treatments as they don't consider it to be essential. However, oral disorders like malocclusion can lead to further complications like difficulty in mastication and speech. This study clearly shows that more awareness must be created about cretinism among doctors as well as public.

V. CONCLUSION:

Cretinism patients usually vary from normal children in their external appearance and most of them face difficulty in phonetics and mastication.Hence, special care must be taken while treating them.Malocclusion is misalignment or incorrect relation between the teeth of two dental arches.In cretinism patients,although the teeth reach normal size ,they are frequently crowded due to the small size of the jaws.Hence malocclusion and oral hygiene should be diagnosed and treated in cretinism patients.Correction of malocclusion may reduce risk of tooth decay and help relieve excessive pressure on the temporomandibular joint.

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