DENTAL MANAGEMENT OF HYPOTHYROIDISM PATIENT – RISKS AND SAFETY MEASURES

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Patients who have thyroid disease present a treatment challenge to the dentist. Awareness of the condition and current stage of treatment is important in understanding the possible modifications needed for dental treatment. The main complications associated with hyperthyroidism are cardiac comorbidity, others are diabetes mellitus and asthma. Consultation with physicians/ endocrinologist is warranted if any sign or symptom is noted on examination. Dental treatment modifications may be necessary for dental patients who are under medical management and follow-up for a thyroid condition.

Key Words: Hypothyroidism, Delayed eruption, Retained primary teeth.

The thyroid gland and its hormones play an important role in the regulation of growth, development and metabolic functions of the body. As a part of health care team, the dentist plays an important role in detecting hypothyroidism. Modifications of dental care must be considered when treating such patients. This case report presented here outlines the dental management of a 10 years old girl with hypothyroidism.

CASE REPORT

A 10 years old girl was referred to the department of pedodontics and preventive dentistry, Kothiwal Dental College and Research Centre, Moradabad, with the chief complaint of retained primary teeth and delayed eruption of permanent teeth. History revealed the normal scheduled eruption of all primary teeth. Clinical examination revealed that the patient had a short stature fig-1, a broad flat nose, coarse and dry skin and retained primary teeth fig-2. Panoramic radiograph of the patient showed unerupted yet fully developed permanent teeth fig-3 and multiple carious primary teeth along with periapical lesion in relation to 75.

Because it was observed that the patient was short in stature, having flat nose, coarse and dry skin, hypothyroidism was suspected. The patient was referred to the general hospital of Kothiwal Dental College and Research Centre. After examination and investigations, the physician confirmed the diagnosis as hypothyroidism. The patient was treated by hormone replacement therapy by the physician. Following hormone replacement therapy, a dental treatment plan was developed for the patient. After consultation with the physician extraction of 71, 81, 72 and 82 was done under local anaesthesia to enhance the eruption of permanent teeth. Pulpectomy was done for 75 and a stainless steel crown was delivered fig-4&5. All of the carious teeth were restored with glass ionomer cement. One year recall clinical photograph showed erupted 31 and 41. Now 51 and 61 are extracted to enhance the eruption of 11 and 21 fig-6. The patient is kept on follow-up.

DISCUSSION

Hypothyroidism may be classified either primary or secondary. In primary the thyroid gland in itself is abnormal. In the secondary, pituitary gland does not produce an adequate amount of thyroid stimulating hormone. Most cases however represent the primary form of the disease. Congenital hypothyroidism usually is present due to hypoplasia or agenesis of thyroid gland. Screening of this order is routinely carried out at birth

Medical conditions associated with hypothyroidism include anaemia, cardiomegaly, dry hair, goiter, hyperlipidemia, hypertelorism, lethargy,

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myxedema, reduced cardiac output, reduced respiratory rate, seizure, tachycardia, weight gain and failure to grow may be the first indication of disease.[1,2,3]

Oral manifestation includes macroglossia, enlarged salivary gland delayed eruption of teeth, compromised periodontal health, dysgeusia.[4] Delayed eruption may be attributed to many diseases, syndromes and systemic factors. The most common are hypothyroidism, hypopitutarism, cleidocranial dysostosis, dowm syndrome, hypovitaminosis etc.

TSH levels are elevated in primary hypothyroidism. TSH levels greated than 21mIU/ml are indicative of hypothyroidism.[5] Medical management include thyroxine replacement and levethyroxine sodium is the drug of choice and is implemented at 0.25 mg every day and titrated according to the patients response at monthly intervals

In our patient TSH level was found 739.29 mIU/ml and she was treated with thyroxine replacement at doses of 50 mg/day and patient is kept on monthly monitoring of TSH level. After replacement therapy the TSH level was decreased to 126.42 mIU/ml after 1 year time interval.

The hypothyroidism patients are susceptible to cardiovascular diseases before treating such patients consultation to the physician should be done.[4,6]

Hypothyroidism patients are sensitive to CNS depressants and barbiturates so these medications should be used sparingly.[4,6]

In patients who have cardiovascular disease local anaesthetic and retraction cord with epinephrine should be used cautiously.

Haemostasis is not concern unless the patient's cardiovascular status mandates anticoagulants.

Hashimoto's disease has been reported to be associated with DM[7,8] and patient who have DM might become hyperglycaemic when treated with T_4. When providing dental care to the patient with DM attention should be focused on complications associated with poor glycaemic control which may cause decreased healing and heightened susceptibility to infection.[4,9]

The oral health care professional should be familiar with the oral and systemic manifestations of thyroid disease so he can identify any complication. If a suspicion of hypothyroidism arises for an undiagnosed patient all elective dental treatment should be put on hold until a complete medical evaluation is performed.[5]

CONCLUSION

The oral health care professionals can play a role in screening of dental patients who have undiagnosed thyroid disease. In addition to treat patients who have thyroid disease a thorough understanding of the many related pathological conditions as well as sign and symptoms that can occur is needed.

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Fig.-1 Photograph of the patient revealing short stature.



Fig.-2 Photograph of the patient before hormone replacement therapy showing retained primary teeth for which the patient was initially referred.

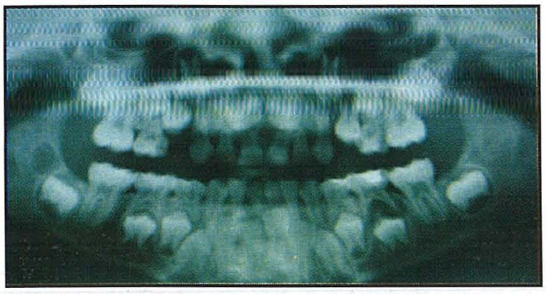


Fig.-3 Panoramic radiograph of the patient showing unerupted yet fully developed permanent teeth.

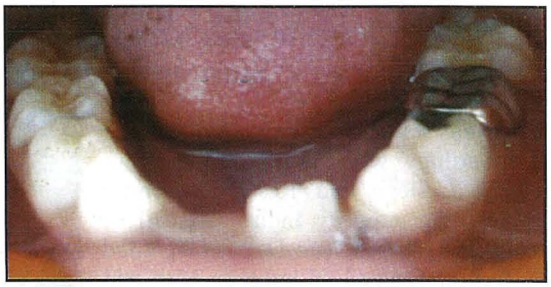


Fig.-4 Photograph of the patient showing eruption of 31 after extractions.

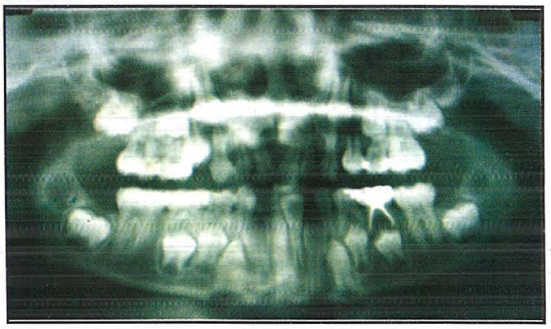


Fig.-5 Panoramic radiograph of the patient after eruption of 31.

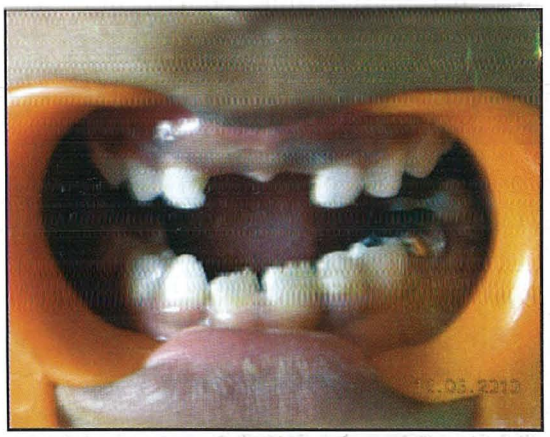


Fig.-6 photograph of the patient after 1 yr of thyroid hormone replacement therapy showing eruption of mandibular permanent central incisors.

WORKSHOP ON RESEARCH METHODOLOGY HELD

Host: Modern Dental College & Research Centre, Indore
Sponsored by: ICMR and guided by DCI

A two-day training workshop on Research methodology was held at the Modern Dental College and Research Centre, Indore sponsored by Indian Council of Medical Research, New Delhi and guided by Dental Council of India on 17th and 18th September 2010. The workshop was designed to train the teaching faculty members of Dental College from Central and Western Zones of the country to impart knowledge, skill and methodology on Dental Research.



Lighting the lamp. (L-R) Maj. Gen. Dr. P.N. Awasti, Dr. P. V. Wanjari, Dr. Ramesh Badlani, Chief Guest Dr. Anil Kohli, Dr. Ashoo Grover and Dr. V.P. Jalili.

It was conducted by resource persons, Maj. Gen. (Retd.) P.N. Awasthi, secretary, DCI, Dr. Ashoo Grover, Dr. Geetha Menon, Dr. Ravinder Singh from ICMR, Dr. S.S. Sidhu (Retd.) Professor AIIMS and Dr. T. Samraj, from Vinayak Mission Deemed University, Salem.

The workshop was inaugurated by Padma Bhushan Awardee, Hon. Brig. (Dr.) Anil Kohli, the President, Dental Council of India, New Delhi on 17th September 2010. On this occasion, he also released guideline booklet of Dr. R. Ahmed National Awards. About 100 delegates from Madhya Pradesh, Chhattisgarh, Rajasthan, Maharashtra and UP underwent training. Dr. Ramesh Badlani, Chairman, Modern Dental College, gave welcome address. Dr P V Wanjari introduced chief guest and resource person. Dr Ashoo Grover from ICMR gave introduction objective and overview of the workshop. Dr. V. P. Jalili Convener of workshop proposed the vote of thanks.



(L-R) Dr. P.V. Wanjari, Maj. Gen. Dr. P.N. Awasthi, Chairman Dr. Ramesh Badlani, Brig. Hon. (Dr.) Anil Kohli, President DCI, Dr. Ashoo Grover, ICMR and Dr. V.P. Jalili.