ORAL REHABILITATION IN HEREDITARY ECTODERMAL DYSPLASIA: A CASE REPORT

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ABSTRACT:
Background: Hereditary Ectodermal Dysplasia (HED) is a rare group of disorders characterized in aplasia or dysplasia of tissue of ectodermal origin. Oral rehabilitation of the patients with HED is challenging because of absence of teeth and poor availability of bone. This article reports placement of 2 implants in mandible of 18 year male patient with HED. The fully functional prosthesis was given after 4 months. The result suggests that implants can be successfully restored in these patients.

Key words: Endosseous Implants, Hereditary Ectodermal Dysplasia (HED), Rehabilitation

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INTRODUCTION:
Hereditary ectodermal dysplasia (HED) is a rare group of inherited disorders characterized by aplasia or dysplasia of tissue of ectodermal origin. Oral rehabilitation of the patients with HED is challenging because of absence of teeth and poor availability of bone. This article reports placement of 2 implants in mandible of 18 year male patient with HED. The fully functional prosthesis was given after 4 months. The result suggests that implants can be successfully restored in these patients.

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Fig. 1 – An Orthopentomogram showing severely resorbed ridges and impacted mandibular canines

Fig. 2 – Clinical photograph showing erupted two maxillary canines at central incisor position

Fig. 3 – Intraoperative photograph showing placement of both mandibular implants

**Treatment:** A team approach consisting of prosthodontist, pedodontist and an oral and maxillofacial surgeon was made. After clinico-radiological examination, a treatment plan was made comprising of extraction of two impacted canines in mandible and then placement of two implants in mandibular anterior region after 4 months of extraction and to retain maxillary canines on both sides to use them as abutments for maxillary overdentures. Two titanium screw type of implants were placed in mandible in inter foramen region the implants were allowed to osseointegrate for a period of 4 months in the mandible. The implants were uncovered after 4 months and healing abutments were placed under LA.

Successful results were determined by means of evidence of Osseeintegration during implant uncovering followed by asymptomatic function of the restored and occlusally loaded prostheses in form of overdentures.

Fig. 4 – Mirror image showing Ball and Socket abutments attached to two mandibular implants

Fig. 5 – Ball and Socket abutments attached to two maxillary canines after root canal treatment

Fig. 6 – Photograph showing Try-in of complete waxup dentures
RESULTS
This patient was followed up for a time period of 3 years and at the end of 3 years no clinical mobility was seen in implants. Patient was wearing and satisfied with the prostheses, hence the results of this study suggest that implants can be successfully placed and subsequently restored in these patients.

DISCUSSION
Hereditary ectodermal dysplasia is a rare disorder affecting the organs of ectodermal in origin. Dental defects associated with HED can cause severe esthetic and functional problems. In jaws the teeth are usually missing leading to underdevelopment of jaw bones and problem for rehabilitation. In childhood, the treatment of choice is often a removable partial denture or complete denture, because these can be easily modified during periods of rapid growth. For adults, the underdevelopment of the permanent dentition usually results in the underdevelopment of the alveolar bone, which could prohibit placement of implants without extensive grafting. In addition, underdevelopment of the maxilla in HED patients with hypodontia usually results in a relative prominence of the mandible. However, these problems were not observed in this patient. In this patient both maxillary canines were having good support of alveolar bone, so used as abutments for overdentures. In literature there are cases reported of HED in which severe three dimensional alveolar bone atrophy was present and extensive bone grafting was done with vertical bone distraction. Successful results were given with implant placement and final prosthetic rehabilitation. According to the literature, implant therapy should be delayed until the end of skeletal growth. The placement of implants in growing patients is not recommended as a routine practice, because submergence or infraaposition of the implants may result in complications in growing patients. However studies also been carried out which suggests that implant therapy can be done in growing patients with complete edentulous as complication of submergence occurs in cases where there is continued increase in alveolar height caused by the eruption of adjacent natural teeth and will result in submergence of the implant. Hence, for patients suffering from HED, rehabilitation with implants is the choice of the treatment for today.

REFERENCES

Fig. 7 – Photograph showing final rehabilitation with both overdentures