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Dental Implants in Children: A Code to Decipher

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Editorial

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Editorial

In our day today clinical practice, many a times we come across a situation in a child patient, where the oral rehabilitation is of prime importance. Congenital anodontia such as in patients of Ectodermal dysplasia, cleft lip & palate and traumatic tooth loss are the frequently encountered in children. By convention, a removable partial denture is the treatment of choice for such cases as replacement of teeth by implants is generally restricted to patients with completed maxillofacial growth. The major concerns for implant placement in children are: in the long term as the growth advances the implant may get submerged/ embedded in the bone and also it may restrict/hinder the normal growth of the jaws. The implant lacks in eruption potential, therefore, replacing a lost tooth with an implant in a growing child may end up with discrepancies in the occlusal plane, esthetic problems and possible disruption of the normal development of the jaw [1]. Hence, it is important to measure benefits of implants placement ingrowing patients against the concerns regarding their premature placement.

An overview of literature reveals inadequate data on a reliable indicator for growth completion in a child. Kokich said that stabilization of shoe and garment size, arrest of growth in height, shaving in males, and absence of change in serial cephalometric radiographs taken 1 year apart can be used as a measure of growth arrest [2,3]. The covering of the middle phalanx of the finger with epiphysis typically occurs in the deceleration period after the growth spurt is completed. When the radius bone is covered with epiphysis, the growth is considered as reached to the adult level. It has been suggested that the changes in the cervical vertebrae with growth and development can be used to determine the skeletal age, and it is a method as reliable and valid as the hand-wrist region [4,5].

Maxillary anterior region is the most common site prone to traumatic/congenital tooth loss andtherefore, more frequently needs rehabilitation [6]. According to Kraut [7], 15 years of age in girls and 17 years of age of boys should be waited for implant placement at maxillary anterior & posterior regions. Mandibular anterior region is the most ideal area for the osseointegrated implants placement prior to the growth. During the first two years of life, the suture in the symphysis region becomes closed. Implant supported prosthesis in mandibular anterior region should be re-designable in order to allow for a 5-6-mm increase in dental height as well as anterio-posterior growth [8].

Ryda [9] suggested that all the clinical judgment and treatment for children should be performed according to the United Nations Convention on the Rights of the Child. Child's development physically as well as psychologically should be respected while planning the treatment. Children of age six years and above can undergo implant placement in mandibular anterior regions in cases of anodontia whereas children of around 3 years of age should be treated only by removable prosthesis as recommended by National foundation for Ectodermal Dysplasia USA.

Therefore, apart from determining the severity of hypodontia and status of skeletal maturity, the psychological stress should also be taken into consideration prior to implant placement. Sometime treatment planning may advocate that the placement of

implant prior to growth cessation would yield a better quality of life but this could only be justified when the anticipated positive effects are greater than the drawbacks of the procedure. Hence, it is our responsibility to conduct long term clinical trials responsibly to monitor and follow the outcomes of early implant placement [10].

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