PriMera Scientific Dental Sciences
Volume 1 Issue 1 April 2023

PriMera Scientific Publications

Direct Midline Diastema Closure with Composite Layering Technique

Type: Short Communication
Received: March 03, 2023
Published: April 05, 2023

Citation:
AH Muhamad. "Direct Midline Diastema Closure with Composite Layering Technique". PriMera Scientific Dental Sciences 1.1 (2023): 38-39.

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Maxillary anterior spacing is a common aesthetic concern among patients. Labial frenulum, microdontia, mesiodens, peg shaped lateral incisors, agenesis, cysts, and habits such as finger sucking, tongue thrusting, or lip sucking, dental malformations, genetics, proclinations, dental-skeletal discrepancies, and imperfect coalescence of the interdental septum all contribute to midline diastema. Appropriate technique and material for effective treatment are determined by time, physical, psychological, and financial constraints. In diastema cases, direct composite resins provide the dentist and patient complete control over these limitations and the development of a confident smile. In this case report a midline diastema in the maxillary arch was aesthetically managed with direct composite resin in two appointments.

Diastema is defi ned as a space or a gap which is greater than 0.5 mm between the adjacent teeth. It is called as "midline diastema" when seen between maxillary central incisors or "polydiastema" when seen between a group of teeth in the dental arch.

Generally these spaces create an unpleasant appearance for individuals. Sometimes they may lead to phonetic problems, particularly in cases with wide spaces.

Diastema necessitates treatment because of esthetic, psychological, and functional concerns. However, the maxillary midline diastema is a normal growth feature of children in the primary and mixed dentition period and, in most of the cases, it decreases or even completely closes by the medial eruption of the maxillary lateral incisors and canines in childhood. However, for some individuals, the spaces remain after the transition of dentition. In contrast to the maxillary diastema, the mandibular one is rarely seen in children and is more dramatic than the maxillary diastema. To date, it has been reported that not only a factor is responsible in the formation of diastema but it has multifactorial etiology including the possible genetic predisposition. Due to the multifactorial etiology of the diastema, it is important to understand the causes of the condition to select the most appropriate treatment.

The incidence of midline diastema differs in terms of ethnicity. According to Lavelle, maxillary midline diastema incidence is 3.4 % in Caucasian population, 5.5 % in Negroid population, and 1.7 % in Mongoloid population, whereas 1.6 % was reported for Indian population.

Before initiation of any definitive restorative approach in the case of diastema closure, the clinician must understand its etiology. It can be due to an anomaly in the anterior region such as mesiodens or hypodontia, size of the teeth as microdontia, enlarged and hypertonic labial frenum, pernicious habits as tongue trusting, periodontal problems, and cystic formation. Therefore, clinician must obtain a detailed medical and patient history, previous treatments, and a series of periapical or panoramic radiographs of the patient before initiation of the treatment. In the clinical examination session, clinician should also examine the dentition, occlusion, labial frenum, gingival structures, lips, as well as patient face regarding the esthetic treatment procedure and periodontal condition. For a multidisciplinary approach procedure, clinician should also need to obtain facial and intraoral photographs, study models to make wax setup of the case for analysis and measurements, and share it with the patient as well as multidisciplinary team member for most appropriate treatment option and best final outcome.

In this case report a midline diastema in the maxillary arch was aesthetically managed with direct composite resin in two appointments.