12. INTERDISCIPLINARY ORTHODONTIC AND PROSTHETIC TREATMENT OF PATIENTS WITH CLASS 1 ANGLE MALOCCLUSION

Sofia Mostovei

Academic adviser: **Oleg Solomon**, M.D., Ph.D., Department of prosthetic dentistry "I.Postolachi", State medical and Pharmaceutical University "Nicolae Testemiţanu", Chişinău, Republic of Moldova

Introduction: Class 1 Angle malocclusion is a polyetiologic pathology with various clinical situations, this is important to be considered in treatment planning of these patients and it is necessary to determine the etiology and perform a deep clinical examination to obtain the whole information and achieve the expected results. The interdisciplinary orthodontic and prosthetic treatment highly demanded among adult patients. The success of treatment is appreciated functionally, esthetically and gnathologically. Sometimes clinical particularities of the malocclusion don't allow the prosthetic construction to be functionally and esthetically made, which needs a preliminary orthodontic treatment in order to obtain optimal conditions for patient's rehabilitation.

Purpose and Objectives: The evaluation of interdisciplinary orthodontic and prosthetic treatment applied in the rehabilitation of one patient with first class Angle malocclusion.

Material and methods: The report was made on one patient with first class angle malocclusion, treated by the use of fixed orthodontic system (MBT ™ versatil System) with following fixed prosthetic rehabilitation. The following steps have been performed during the treatment period : x-ray examination(teleradiography, Onix-Ceph analyzing program), preliminary impression obtaining and cast pouring, indirect fixation of orthodontic system, periodically activation of orthodontic arches, tooth preparation and impression obtaining with C-class silicone material, the fabrication of fixed prosthetic construction.

Results: The initial orthodontic treatment last 1.7 years, patient had been coming to control visits for all treatment period for system activation and dynamic monitoring of the changes during treatment. The contention devise was made at the end of orthodontic treatment. The rehabilitation period of the patient ended once with the fixed prosthesis delivery, which permitted to restore the lost function and esthetic appearance.

Conclusion: an important role in class 1 Angle malocclusion treatment, along with conventional treatment, is attributed to noninvasive methods of rehabilitation. The method must be chosen depending on specific clinical case, treatment period, expected results and patients demands.

Keywords: malocclusion, prosthetic treatment, fixed orthodontic system

13. BONE GRAFTING MANDIBLE IN IMPLANT-PROSTHETIC REHABILITATION

Strisca Stanislav

Academic adviser: **Sirbu Dumitru**, M.D., Associate Professor, State Medical and Pharmaceutical University "Nicolae Testemiţanu", Chişinău, Republic of Moldova

Introduction: The goal of modern dentistry is to restore the patient to normal contour, function, comfort, speech, esthetics, and health. One of the most important prerequisites for achieving and maintaining successful osseointegration is the presence of a sufficient volume of healthy bone and soft tissue, at the recipient site. Bone crest atrophy represents an important obstacle in implant-prosthetic rehabilitation patients with different types of edentulism.

Purpose and Objectives: The aim of this study was to evaluate and describe surgical techniques and to create an algorithm of conduct in different degrees of mandible atrophies (type B-w, C and D by Misch).

Material and Methods: The study was axed on 33 patients, treated in ambulatory and inpatient unit by using the following methods: autogenous bone grafting from extra- and intra- oral sites, osseo-splitting, lateral synthetic bone grafting and implant placement, autogenous and synthetic bone grafting with delayed implant placement, synthetic bone grafting and implant placement, transposition of the inferior alveolar nerve, alveolar distraction osteogenesis.

Results: The mean age of the patient was 41,58±2,17 years. Six patients who had type B (Misch) atrophy, with the mean age 38,8±5,09 years, were rehabilitated using synthetic bone grafts and immediate implant placement. This is a simple method which provides a good outcome. Three patients with the mean age 43,3±6,38 years, were treated using autogenous and synthetic bone grafts with delayed implant placement, this method can provide a better understanding of patients force factors, but this procedure requires additional surgical interventions. The average age of 5 patients with available bone type B+, B-w by Misch, was 46±4,08 years, the mean width of the alveolar crest before procedure was 3, 56±0, 44mm, they were treated using osseo-splitting method, after the procedure the width of the alveolar crest was approximately 5 mm. This method is useful when a wider implant is needed to be placed to ensure a better stability with a predictable result. Two patients who suffered from type D atrophy were rehabilitated using alveolar distraction osteogenesis. Since its introduction in 1996, this procedure has been considered a viable technique for reconstruction of alveolar bone before implant placement. At the end of this procedure we increased the height of alveolar crest by 10 mm.

Conclusion: One should take in consideration the individual clinical situation, professional skills, the ratio between the risk, complications and expected results, and the psychological status of patient before choosing one of the modern methods of oral rehabilitation.

Keywords: Bone grafts, atrophy, prosthetically driven implants

14. EVOLUTION OF NON-REMOVABLE ORTHODONTIC APPLIANCES

Vinichenko M.

Academic adviser: **Mirchuk B.N.**, Ph.D., Odessa national medical university Orthodontics department, Odessa, Ukraine

Introduction: The father of modern orthodontics is considered to be an U.S. orthodontist E.G. Engle (1855-1930), who authored the most famous classification (1898) and created universal orthodontic device. It was E.G. Engle who organized the first orthodontics association, the first scientific orthodontic magazine, the world's first institute of orthodontics. The main discovery of Professor Engle was the arc (sliding arc, fixed arc, expansive arc) and their use in various devices directed towards the treatment of most types of anomalies.

Purpose and Objectives: to analyze comparative assessment between Engle's devices and their contemporary modifications.

Materials and methods: Engle's sliding arc is effective in the sagittal plane. Stationary arc of Engle uses to move individual teeth or groups of teeth. If it is used on both jaws at the same time including elastic traction it can result in saggital, vertical and transversal movement of the teeth. Engle's expansionary arc is used both in the sagittal and vertical planes. Engle's device "Pin and tube appliance", (1912)- vertical processes (pin) soldered to the arc, for each tooth bandage ring is fixed with soldered vertical pipe (tube) that is inserted in the vertical processes on wire arc. A.G.Engle constantly modified his devices that created the ejuas-technique. Engle's device "Ribbon arch appliance" (1920)- specially developed bracket (lock) with a vertical slot in which the wire arch was installed and was fixed by means of bronze pins, the ends of which were bended. In 1928 was designed the original building of locking arrangement-brackets and rectangular arc, i.e. ejuas-technique.

Results: Modern non-removable orthodontic appliances are mostly built on the principle of universal Engle's device: braces (metal, ceramic, sapphire), locks or rings with a lock on molars, orthodontic arc (steel and nickel titanium, round and rectangular), elastic or metal ligatures, elastic traction, as well as the opening and closing springs, and so on.

Keywords: non-removable orthodontic appliances, Engle's device