Abstract that swing lock design in patient with

Business, Management

ABSTRACTThesuccessful of prosthodontic treatment is determined by the sound teeth andperiodontal tissue. A conventional denture fabrication in patient withperiodontal disease lead to lack of retention and stability. Therefore, aspecial denture designs such as swing lock are needed to overcome this problem. Swing lock prosthesis is a frame removable partial denture, consist of buccalhinge or labial bar which attached to framework by hinge mechanism at one ofthe end that allow it to open and close, while the other end work as lockmechanism. This prosthesis can be used for partial edentulous condition whichuse some or all teeth surfaces and undercuts for its optimum retention andstability. This case will discuss about swing lock design for removable partialdenture in patient with periodontal disease. It can be concluded that swinglock design in patient with periodontal disease would maintain periodontaltissue and improve its retention and stability.

Keywords: swing-lock, removable partial denture, periodontal disease INTRODUCTIONRestorationand prosthetic can not be separated from periodontal tissue health. Consideringassessment of periodontal tissue is important before fabrication of removablepartial denture, since periodontal disease often lead to problem of making aprosthesis. 1When gingivitis or periodontitis are found in oralcavity, a preliminary treatment should be done before prosthesis is made. Severe periodontal disease often lead to lack of supporting tissue which causethe missing of teeth. 2Toothloss cause an uncomfortable, inferior mastication function, disturbedpronounciation, and inferior esthetic for patients which lead to lack ofconfident, especially in patients with anterior tooth loss.

This can beovercome by using a removable partial denture.
3 Conventionalremovable partial denture fabrication should concern about condition of naturalteeth and periodontal tissue. The relationship between teeth and periodontaltissue cannot be separated. Periodontal disease can affect stability andretention of conventional removable partial denture. Furthermore, it can reduceperiodontal tissue health. 4 Swinglock removable partial dentures in patient with periodontal disease firstintroduced by Simmon in 1963, which first recognized by Ackerman asmaxillofacial prosthesis in patient who had a maxillofacial cancer surgery.

5, 6 PeriodontalDiseasePeriodontaldisease represents a group or condition which cause inflammation and damage ofgingival, periodontal, cementum, or even alveolar bone. Periodontal disease isan inflammation and recession in gingival and periodontal. Prayitno11said that periodontal disease is a group of lesion in tissue around teeth whichsupport the teeth in its socket. 7Etiologyof periodontal disease consist of local and systemic factors. Local factor isoccur in tissue around the teeth, while systemic factor related to gingival andgeneral condition. 12 Local factor causing inflammation which is themain pathology process of periodontal disease, while systemic factor controltissue response to local factor.

Therefore, the effects of these factors arerelate to one another. 7, 8Besidesits primary factor as an etiology of periodontal disease, secondary factoraffects its primary factor, which has a role in periodontal disease. Frameremovable partial denture is a secondary factor which affects in plaqueaccumulation on tooth surface.

The using of prosthesis would affect periodontaltissue condition. 7Swing-LockDentureSwing-lockremovable partial denture introduced by Ackerman in 1955, Simmons in 1963, Brown in 1970, and Stewart et al in 1983. 5Swing lock prosthesis is aframe removable partial denture, consist of buccal hinge or labial bar whichattached to framework by hinge mechanism at one of the end that allow it toopen and close, while the other end work as lock mechanism. 9Thisprosthesis can be used for partial edentulous condition which use some or allteeth surfaces and undercuts for its optimum retention and stability.

There aresome indications of designing swing-lock in patient with partial edentulous, such as there are only some natural teeth for conventional removable partialdenture, lack of support from the main abutment, inappropriate position ofabutment, and lack of retention and stability. 9This type of denturealso support mobile teeth as a splint. Veneer resin which place on labial armare esthetically cover the recession area. 10 Case ReportA36 – year –old woman came to a dental hospital and asked for fabrication of newremovable partial denture because her loose-fitting denture. Extraoralexamination showed a normal facial profile, tapered face shape, symmetric eyes, nose, and ears, no TMD, and no other abnormalities.

Intraoral examinationshowed no occlusion, U-shaped hard palate, a moderate depth of maxilla andmandibular vestibulum, normal relationship of maxilla and mandibular, U-shapedmaxilla ridge, knife edge shaped mandibular anterior and right posterior ridge, and knife edge shaped and flat mandibular left posterior ridge. Picture1. Panoramic

Radiograph § Some root remains§ Generally loss of alveolar bone§ One third root apically embedded in alveolarbone b a Picture 2. a. Maxillary fulldenture, b. Swing-lock precision attachment with I bar on 31, 32, 41, and 42. CaseManagementFirst Appointment· Anatomicalimpression of maxilla and mandibular with mucostatic or non pressure impressiontechnique· Diagnostic cast Picture 3. Impression andDiagnostic Cast Making anindividual tray (autopolimerized acrylic)§ Remove some parts of tray which cover the flabbytissue, so that window shaped exposed (window technique).

Make some holes attray to allow the impression material out of the tray.

Picture 4. Individual Tray Second Appointment§ Border molding of maxillary and mandibularyindividual tray using low fusing compound (greenstick compound). Picture5. Border Molding § Impression of maxilla and mandibular arch usingan elastomer impression material.

Picture 6. Impression § Working cast à laboratory § Framepartial denture try in for mandibular Picture 7. Metal Frame Third Appointment· Bite rim fabrication for maxillary andmandibular arch· Determination of alignment, vertical dimensionof occlusion, dan rest position. Picture 8. Determination ofalignment, VDO, and rest position. § Arrangement of artificial maxillary anteriorteeth. Overbite 0 mm, overjet 2 mm.

§ Tryinmaxillary anterior teeth.§ Arrangement of artificial maxillary posteriorteeth with linguolized occlusion.§ Tryinmaxillary posterior

teeth§ Acrylic processing Fourth Appointment§ Insertion of Maxillary and mandibulary dentures§ Control I – DHE – 24hours after insertion. Control of mucosal condition § Control II – DHE Picture 9. Insertion Picture 10.

After Insertion DiscussionConventionalmaxillary full denture and removable frame partial denture with swing lockdesign were fabricated for this patient, periodontal disease would not providean optimal support for the prosthesis, therefore, swing lock design was made toprovide an economical properties. Crown or splint were not needed to supportthe periodontal tissue, especially for Class I and II Kennedy with anteriormodification. Appropriateprincipal, practice, and design of RPD which applied to swing lock prosthesiswould support the natural teeth with periodontal disease that admit occlusalloading from retentive labial strut contact and lingual plate on antagonistteeth aspects. SummarySwing lockprosthesis for patient with periodontal disease provide a superior prognosis.

The design would maintain periodontal condition and provide well retention andstability. REFERENCES 1. MoimazS, S Orlando. Association between dental prosthesis and periodontal disease ina rural Brazilian Community. Brazillian Journal Oral Science. 2006; 5(19): 1226-31. 2.

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