When we've to do something for those teeth, we often make a partial denture with simple crowns for abutments on them or extract.

However, a partial denture with clasps often makes the condition worse because the separate abutments will be easily loose because of the actions of the clasps as you know.

In that point of view, I think that Konus crowns and/or magnetic attachments can be one for the best options for the abutments of teeth with poor prognosis.

The stresses upon those teeth can be more vertical and a partial denture with them can be easily repaired if something happened.

OII-3 Removable Partial Denture for Unilateral Edentulous Case

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When teeth including incisors remained only unilaterally in partially edentulous situation, designing a partial denture is so difficult that restorative dentists get a trouble in attaining the sufficient retention, support, stability and esthetics for the long term success.

The patient in the case has only one central incisor on the left side of the upper arch. Residual ridge was moderately absorbed and the periodontal support of remaining teeth were poor.

Major connector was designed to cover the entire palate to get the maximum support from the mucosa. We solved the dislodging movement of the denture and the fatigue of the direct retainers with the precise fitting indirect retainers and proximal plates. As the abutment for the partial denture is central incisor, we utilized the small, resilient, extracoronal attachment(Technoroach®, CM) as a major direct retainer.

Good result in the aspect of function and esthetics was achieved. This type of design would be suggested as one of the esthetic restorative options for the difficult partially edentulous situation.

OII-4 Mechanical Properties of I-Bar Clasps in Clincial Use

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I-bar clasps are popular direct retainers for distal-extension removable partial dentures. However, science-based criteria on mechanically preferable shape of I-bar clasp is scarce. This study aimed to investigate the variation of factors of I-bar clasp shape used in partially edentulous patients, and to clarify the effect of the variation on stiffness and stress of I-bar clasps by finite element analysis. Factors of 23 I-bar clasps of 17 patients as thickness, width, taper, radius of curvature, length, and relation to oral structures were measured. A three-dimensional finite element model was made corresponded with each measured I-bar clasp with vertical and horizontal straight sections connected with a curved section. A concentrated load of 5 N was applied at the lowest point of the I-bar tip that contacted the abutment in the buccal portion, and maximal equivalent stress and stiffness of each clasp were evaluated. Values of the factors, stiffness, and maximum

stress showed a wide variation. Mean stiffness was three times of proper one, and mean stress was double of the fatigue limit of Co-Cr alloys. Only 6 clasps of 23 were regarded to be appropriate in both stiffness and stress. This variation might be caused by the lack of science-based criteria of a preferable shape of I-bar clasps.

OII-5 Case Report on Jaw Opening Limitation with No Disc Displacement of the TMJ-Arthroscopic Findings and Mandibular Tracking Pattern

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Two cases having opening limitation even though there were no disc displacement of the TMJ were pursued in this study. The first patient was a 41-year-old man(Case 1) and the other was a 43-year-old woman(Case 2). Both patients visited Tsurumi University Hospital with complaining of pain around the right temporomandibular joint during chewing and opening limitation. Ranges of opening motion were 24mm(Case 1) and 30mm(Case 2) respectively. They revealed no deformity of condyle on X-ray examination, and besides neither disc displacement and nor deformity of the disc on MRI. First of all, we performed splint therapy to reduce load to the TMJ, but, that was not effective. At this point of time, mandibular tracking at the incisal point was recorded. It showed unstable maximum opening position that could be evidence of fibrous adhesion of the synovial wall in high frequency. Thus we performed diagnostic arthroscopy under local anesthesia. In both cases, there were fibrous adhesion of the synovial wall in high frequency. Thus we performed diagnostic arthroscopy under local anesthesia. In both cases, there were fibrous adhesion of the synovial wall was detected, especially at the anterolateral portion of the upper joint compartment. So that, we performed arthroscopic surgery(lysis and lavag). Seven days later, the pain and dysfunction were alleviated. Three months later, ranges of opening motion were 48mm(Case 1) and 52mm(Case 2), and there was was no evidence of limitation on mandibular tracking pattern. In addition, there were no morbid findings on X-ray examination and MRI. There has been no recurrence of sign and symptom for these 4 years.

OII-6 Overlay Partial Denture with Stud Attachment

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When only a few teeth are remained overdenture or overlay partial denture is one of the choice of treatment in that situation. Periodontal condition of remaining teeth is usually not so good for supporting the load. In the case of anterior long span modification space of Kennedy class III, we have difficulty in fabricating and functional prostheses.

In these case the retention, stability & support of denture could be improved with stud attachment on anterior pier abutment. Lateral force applied on overdenture abutment teeth can be released by reducing the crown/root ratio, so we can be convinced of good prognosis of anterior pier abutment. Solving the unesthet-