

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.

011-5

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 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.

011-6

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 unestet-

ic of anterior denture part that can be occurred by guiding plane of pier abutment of conventional RPD is another advantage.

01-7

The Subjective and Objective Evaluation of Complete Dentures.

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In daily clinical activities, it is common that the treatment success of complete dentures is assessed mostly based on the patient's subjective satisfaction. However, the objective evaluation data that is not influenced by the subjective bias could be useful for the assessment of complete dentures. We developed the simplified technique for the measurement of the masticatory performance by using the particle size distribution of masticated hydrocolloid impression material, and this method could be one of such objective measures. Seventeen edentulous patients who attended the Student Clinic at Kyushu University Dental Hospital participated in the study. For the subjective data, the patient's 'satisfaction scores' (32 items) was recorded by visual analog scale, and the 'masticatory score' was obtained from the questionnaire where the number of kinds of foods that the patient could eat was recorded. Each data was obtained from the patients at the first visit with the old dentures, and after the completion of appropriate adjustment procedures following the delivery of new dentures. The improvement by new dentures was calculated, then the correlation between the objective data and the subjective data was investigated. Statistical analysis revealed that there were significant correlations between the masticatory performance and 'masticatory score' ($r=0.83$, $p<0.001$), and the masticatory performance and 10 items of 'satisfaction scores' ($r=0.522-0.769$, $p<0.05$), respectively. Hence we concluded that the objective evaluation by the masticatory performance might be useful in evaluation of the improvement of complete dentures.

Oral

01-8

Complete Denture by Biometric Impression Tray

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Impression trays can be regarded as a means of only carrying impression material into mouth and ensuring that the material is distributed to an even thickness over the denture-bearing surface so that the dimensional changes associated with the setting of the material produce the minimum distortion of the impression. With this limited concept, a vital part of the denture space cannot be recorded.

To define the positions of the lips and cheeks, one of the most satisfactory method is to use measurements of the average pre-extraction buccolingual breadth of the alveolar process and to construct what we call 'Biometric' trays. These restore the pre-extraction contour of cheeks and lips so that the correct shape of the sulcus can then be recorded with a impression material.

A clinical application will be presented by this thesis to construct the complete denture holding the lips and cheeks in their pre-extraction positions and restoring the facial contour.