

# Management of a stage IV periodontitis with masticatory dysfunction and deep bite - a case report

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## Background

Advanced bone and attachment loss in severe forms of periodontitis are often associated with masticatory dysfunction. Due to the distinct mastication and secondary occlusal trauma, this condition may result in a descent of the bite, aggravating treatment planning and case management.

This case report describes periodontal and restorative rehabilitation of a 43-year-old female patient diagnosed with a generalized stage IV, Grade C periodontitis.

## Medical History

Medical history reveals an incompatibility towards penicillin. No medication is taken regularly. The patient is a non-smoker.

## Family History

According to the patient there is no indication of premature tooth loss in any family member.

## Specific Dental History

On her first appointment at the Department of Conservative Dentistry, Clinic for Oral, Dental and Maxillofacial Diseases, University Hospital Heidelberg in November 2016, the patient is concerned because of increasing bleeding gums, progressing tooth mobility, and pain. She is afraid of losing her teeth. Until then she has not undergone periodontal therapy.



Figure 1:  
Clinical Situation (21.12.2016)

## Clinical and radiographic findings

Clinically (Fig. 1), the patient presents a loss of vertical dimension, teeth migration, an overbite of 7 and overjet of 4 mm. Probing pockets depths (PPD) generally reach 6-8 mm, locally 10-11 mm; attachment levels 6-8 mm, locally 10-13 mm. Tooth mobility and furcation involvement are generally graded II-III (Fig. 2). Radiographically (Fig. 3), a generalized moderate, locally severe horizontal bone atrophy in the maxilla and mandible is revealed. Furthermore multiple furcation involvements and periapical pathoses can be detected. The bone appears generally sclerotic. Tooth 43 is impacted and displaced.

## Procedure/Therapy

Teeth 14, 26, 28, 47 and 48 are extracted. A root canal treatment is performed on tooth 46. All teeth with a mobility > II are splinted. The patient receives periodontal therapy (anti-infective therapy with subgingival debridement under local anesthesia and adjunctive antibiotic therapy followed by periodontal surgery). After one year of frequent supportive periodontal treatment, prosthetic and restorative rehabilitation is planned. Because of the unfavorable crown-to-root ratio tooth 17 is extracted (Fig. 4). The prosthetic treatment includes bite elevation – using tabletops, bridges and a shape correction of the anterior teeth in a direct approach (Fig. 6), which was performed by a colleague.

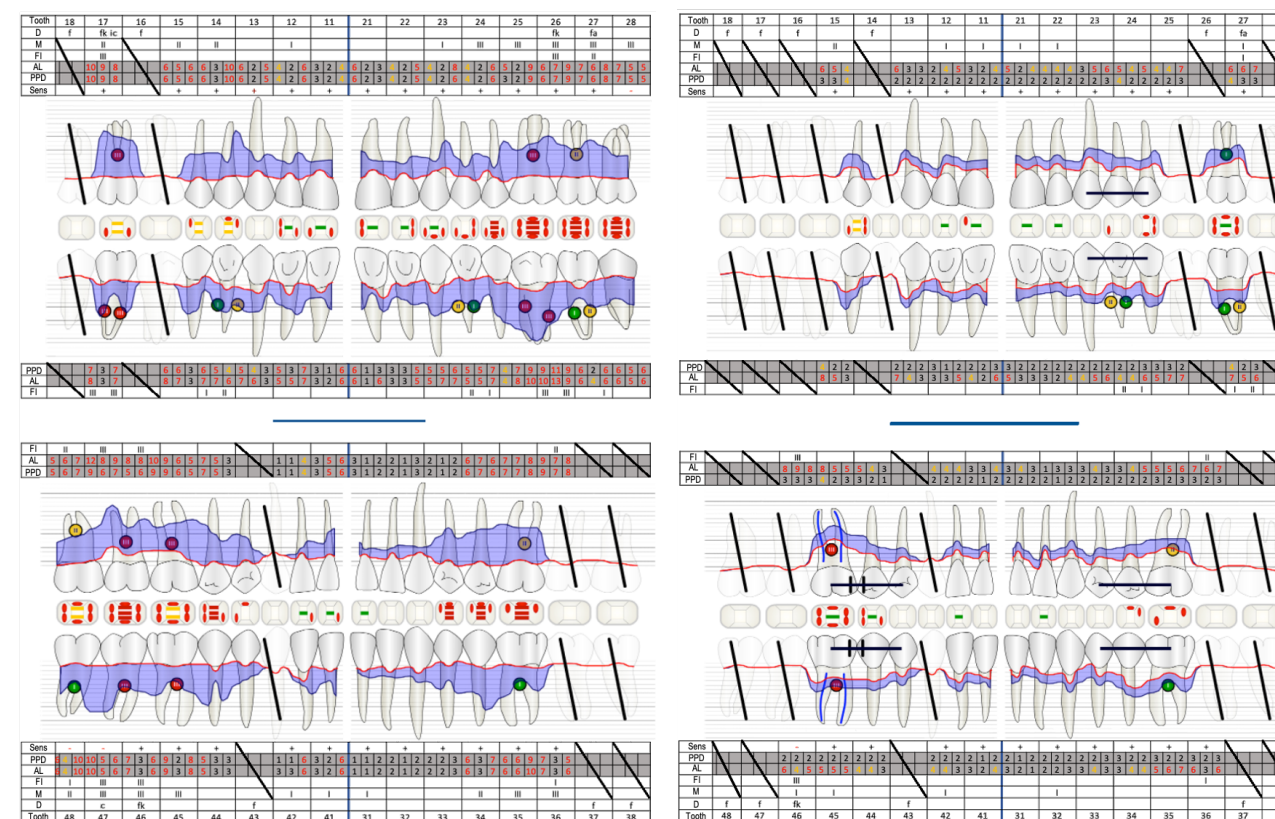


Figure 2: Dental and periodontal status (16.12.2016)

Legend: D – Diagnosis; M – Mobility; FI – Furcation Involvement; AL – Attachment level; PPD – Probing Pocket Depth; Sens – Sensibility

## Outcome

22 months after periodontal therapy the clinical situation appears stable with no signs of inflammation. PPDs are generally 2-3 mm, locally 4 mm; attachment level 4-6 mm, locally 7-9 mm. Tooth mobility is locally graded I-II (Fig. 5). The furcation grade III of tooth 46 is cleanable with interdental brushes.



Figure 3: Radiographic situation (09.11.2016)

Figure 4: Radiographic situation (21.02.2018)

## Conclusion

Treatment planning and management of severely compromised patients still remains a great challenge for the dentist. However, in periodontal stable conditions a prosthetic and restorative rehabilitation seems feasible. The preservation of these teeth is strongly associated with patient adherence.



Figure 6:  
Clinical Situation (13.01.2021)

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