Managing the Transition to Edentulousness Using Partial Transitional Dentures for First Time Prosthodontic Patients: Addressing Unrealistic Expectations – A Case Report

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Abstract

Aim: The aim of this report is to describe the management of a prosthodontic patient expressing unrealistic expectations with respect to the transition to edentulousness.

Objectives: To outline (1) the diagnosis and explicit expectations of the patient on presentation (2) considerations made during treatment planning to address the wishes of the first time prosthodontic patient (3) a sequential treatment plan utilizing transitional partial removable dentures to manage the change to edentulousness (4) functional and aesthetic result achieved.

Results: Delivery of immediate removable partial dentures retaining key abutment teeth in upper and lower arches was a viable prosthodontic solution in the transition to edentulousness of a patient expecting unrealistic treatment outcomes.

Conclusions: Addressing impractical expectations and devising a treatment plan amenable to both clinician and patient is difficult. Strategies to manage these wishes in prosthodontic dentistry can include transitional partial dentures.

Clinical relevance: Practitioners who encounter similar situations may consider this report valuable.

Keywords: Immediate partial dentures, Transition to edentulousness, Unrealistic expectations, Treatment planning.

Introduction

Partially edentulous patients presenting with active oral disease and severely compromised teeth present a challenge to the clinician [1,2]. Prosthetic management of terminal dentitions in the first-time prosthodontic patient must be accompanied by careful consideration of the patient’s wishes [3]. Indeed, patients will present with higher expectations of the proposed dentures, than the clinician themselves [4].

Addressing expectations with respect to restorative options, treatment time, expected tolerance, and cosmetic result etc. is critical to success [5-9]. In these cases, considerable effort must be made to form a smooth transition to edentulousness in a functionally and aesthetically acceptable way [10]. Treatment options are well documented in the available literature, ranging from traditional complete dentures to implant-retained fixed/removable prostheses [11-15].

This case report outlines how cosmetic partial transitional dentures are a viable treatment option to assess patient tolerance and acceptability to new removable prostheses. A staged approach to restorative work with staggered extraction patterns is adopted. An integral component of this case included comprehensive management of the patient’s expectations, who expressed a strong desire for full clearance and immediate completed dentures. The report details clinical work and communication undertaken to manage the patient’s wishes with respect to the transition to edentulousness.

Case report outlines

- Treatment planning factors in managing a terminal dentition
- Addressing anticipated difficulties in tolerance to new prostheses
- Methods utilised to manage patient expectations
- Clinical work undertaken to transition to edentulousness

Methods

Assessment

A 50-year-old male patient presented to the Department of Restorative Dentistry at University College, Cork for evaluation and treatment. His reason for attending focused on a sense of
shame about his dentition, and a sense of deteriorating oral health. On presentation, a detailed dental, medical and social history was obtained. The patient had not attended for dental treatment in two decades, and had no history of wearing removable prostheses previously. The medical history revealed a three decade-long smoking habit. Socially, his dentition was affecting both personal and professional lives (Figures 1-7).

Figure 1: Anterior intra-oral view in ICP on presentation; Figure 2: Anterior view mid-closure into ICP.

Figure 3: RHS intra-oral view in ICP on presentation; Figure 4: LHS intra-oral view in ICP.

Figure 5: Upper arch. Figure 6: Lower arch.

Figure 7: P1 OPG.

A thorough extra- and intra-oral examination with special tests revealed the following diagnosis: chronic generalized severe periodontitis; rampant caries with multiple arrested carious lesions; periapical periodontitis associated with multiple retained roots indicated for immediate extraction; edentulous spaces in upper and lower arches requiring restoration.

The patient expressed several concerns at the initial meeting, namely:
- Full clearance and immediate delivery of complete maxillary and mandibular dentures, preferably implant retained.
- Short treatment time – same day if possible.
- Closure of anterior central diastema.

Anticipated difficulties in this case included managing the patient’s unrealistic expectations concerning treatment options and delivery time, predicting his tolerance of new prostheses, and the difficulties in achieving a final cosmetic result to deem it a success.

**Treatment**

Comprehensive treatment planning began with adjusting said expectations and unreasonable requests. Strategies included:
- Thorough discussion of options: suitability, advantages, risks and complications.
- Explanation that treatment undertaken is in their best interests – literature indicates not to render edentate at one visit.
- Devise appropriate treatment plan incorporating number of sequential steps.
- Information on how to deal with potential side effects, especially regarding P/P tolerance.

The finalized treatment plan incorporated emergency, primary, definitive and maintenance phases. A staged extraction pattern with non-surgical periodontal treatment and other restorative work to be completed concurrently was devised. This allowed stabilization of active oral disease. Key teeth in the partially dentate arches – upper and lower canines – were to be retained to act as abutments for partial transitional dentures. Immediate insertion of incisors and posterior teeth was agreed upon, to maintain limited function and optimal aesthetics for the patient during the definitive treatment phase.

Non-surgical periodontal therapy, endodontic and restoration of carious lesions were completed in the usual manner. Teeth indicated for immediate removal were extracted. Remaining upper and lower incisors were restored, to preserve function and aesthetics during partial denture fabrication. This completed the primary phase of treatment (Figures 8 and 9).

Figure 8: Anterior view post primary phase of treatment; Figure 9: RHS view post-primary phase of treatment.

Transitional partial denture fabrication commenced thereafter, as per the published methods [16-23]. Primary impressions were
taken in sodium alginate; secondary impressions using light and medium bodied polyvinylsiloxane in spaced, perforated, acrylic special trays. Wax blocks allowed a bite registration to be taken and the occlusion was adjusted during the wax try-in stage. The transitional partial dentures were sent for finish in PMMA acrylic. Wrought I-bar clasps to engage the canines allow for improved retention of prostheses.

The remaining incisors indicated for extraction were removed and immediate delivery of upper and lower partial transitional dentures completed [24]. Final evaluation and adjustment of the fit, aesthetics and occlusion were carried out. Post-operative instructions on insertion/removal and adequate oral hygiene were given. Review appointments with adjustments were provided, as deemed necessary by patient and clinician alike (Figure 10).

Results
Delivery of immediate partial dentures while retaining key abutment teeth was a successful prosthodontic solution to initiating a smooth transition to edentulousness in a patient expecting full clearance and implant-retained full dentures.

At subsequent review appointments, the patient reported immense satisfaction with the prostheses, and relief that full clearance had not occurred. Future loss of canines is anticipated, and conventional complete dentures fabricated at a later date. At that point, the patient will have adjusted to wearing removable prostheses, and will be a more suitable candidate for prosthodontic treatment, with respect to both patient expectations and expected tolerance (Figures 11-13).

Discussion
Treatment here achieved a restored, functional dentition with a cosmetic result that is satisfactory to the patient within an acceptable time frame. Clinical photographs highlight the excellent aesthetic result that can be achieved by following a similar plan in these instances. Denture design allowed for optimum retention, and to accommodate for future loss of abutment teeth. The management of patient wishes and implementation of a restorative plan with staged treatment phases to maximize tolerance of new prostheses was critical to achieve functional and cosmetic success in this case.

For rehabilitation with removable partial dentures to initiate the transition to edentulousness, and to meet the patient’s initial expectations, all treatment stages must be carefully developed. Addressing the anticipated difficulties in the patient’s tolerance to new prostheses is fundamental to treatment planning. The clinician must understand the expectations of the patient, and the patient must be aware of the inherent limitations of any restorative therapy. Open and clear communication between clinician and patient is critical, and fosters shared decision-making.

A staggered extraction pattern can be utilized in the management of the first-time prosthodontic patient with a nil prognosis dentition. In the apprehensive patient, this permits stabilization of the oral disease without rendering the patient edentate, or indeed, functionally compromised at any one visit. As the patient requires time to rationalize the concept of partial dentures, and not implant retained prostheses as might be expected, a conservative treatment plan to initiate a transition to edentulousness is necessary. Immediate delivery of partial dentures ensures a smooth transition to partial edentulism in upper and lower arches, and the patient’s tolerance to removable prostheses could be assessed.

Finally, it is important to stress that rehabilitative treatment with transitional partial dentures is an ongoing process, which does not cease at the moment of fitting. Ongoing review of the patient’s oral status is a necessity.

Conclusion
• Addressing the anticipated difficulties in the patient’s tolerance to new prostheses is fundamental to treatment planning
• It is possible to achieve an excellent aesthetic result if an appropriate treatment sequence is followed
• A healthy, functional dentition with a cosmetic outcome that is satisfactory to the patient within an acceptable time frame
• Clinicians encountering similar situations will find this case report valuable
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References