

Case Report

Acrylic partial dentures fixed to adjacent teeth: a case report on quack dentistry

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Abstract The practice of quack dentistry worldwide is a challenge to the profession of dentistry as it undermines the trust of the general public and places the patients at unnecessary risks through their illegal practices. Although the ratio of patients to dentists is rapidly decreasing in Malaysia due to the increased output of qualified dentists from both local and foreign institutions, quack dentistry is still practiced in many areas. This report intends to highlight a popular treatment prescribed by these quack dentists which is removable partial dentures that is fixed to the adjacent teeth by cold cure acrylic. We also aim to discuss the design of the denture and the means employed to remove this 'fixed partial denture'. It is hoped that this case report will highlight the prevalence of the practice of quack dentistry especially in geographical area of this case report and allow the authorities to devise means to stop this illegal practice.

Keywords: partial dentures, quack dentistry, street dentistry.

Introduction

Quacks exist in the dental profession especially in areas where there is poor access to oral healthcare either through lack of dentists or because of the cost of treatment at dental surgeries. The practice of quack dentistry in Malaysia is seldomly reported although dentists inevitably encounter many patients with various evidence of street dentistry in their mouths. In other parts of the world, this same problem has been reported with varying attempts at solving this problem (Sandesh and Mohapatra, 2009; Tandon, 2004).

Malaysia has a ratio of 1 dentist to 6,436 populations for the year 2012 (Ministry of Health Malaysia, 2013). The ratio of dentists to the populations is decreasing due to the increased output of qualified dentists from both local and foreign institutions (Table 1) (Department of Statistics Malaysia, 2013). Nevertheless, street dentistry is still practiced by quacks in many areas.

It is hoped that this report will help the appropriate authorities in devising means to overcome the practice of quack dentistry in Malaysia and across the globe.

Case report

Examination and diagnosis

A 40-year-old male, Mr. K, first attended our public dental clinic in February 2014 complaining of two painful teeth. The patient wanted the teeth extracted as they were both grossly mobile and causing pain. The pain was described as a constant dull ache that worsens on mastication. He pointed to the tooth upper right second premolar and upper right first molar as the culprits.

Mr. K is generally fit and well but he suffers from diabetes mellitus. He is taking medication for diabetes and he is on regular follow-up with his medical general practitioner. Mr. K brushes twice daily and uses no other oral hygiene aids.

Previous visits to dentist by Mr. K was sparse and usually due to pain. He does not have a regular dentist and visits various dental clinics over the years. This is his first visit to our clinic.

On examination, two acrylic dentures were found 'bonded' to its neighbouring tooth with acrylic flanges attached to the buccal and lingual/palatal aspects of the teeth (Fig. 1, 2 and 3). The acrylic dentures were replacing the upper right lateral incisor and the lower left second premolar teeth.

Stainless steel wires were looped around the upper right canine, upper right central incisor, lower left first premolar and lower left first molar. Acrylic was then placed onto this stainless steel wire to form a buccal and palatal/lingual flange hence securing the 'denture' in position. Attempts at digitally dislodging the 'fixed acrylic dentures' were futile as the acrylic was placed into the undercuts of the teeth present.

The patient claimed that this 'fixed acrylic denture' was made at a private clinic in a neighbouring town three or four years ago. He does not remember the exact details but he recalls just attending for one visit to have the 'fixed acrylic denture' made and issued. The procedure was not painful and there was no primary impression taken. The construction was done immediately intra orally.

Suppuration and gross recession associated with the upper right canine, upper right central incisor, lower left first premolar and lower left first molar was noted. The 'fixed acrylic dentures' were firm and cannot be displaced by digital pressure. However, the neighbouring teeth were found to have Grade 1 mobility. This mobility may be underestimated as the acrylic flanges present were impeding efforts of checking for tooth mobility.

The two teeth causing the pain is identified as tooth upper left second premolar and upper left first molar teeth. Both teeth had Grade 3 mobility and were very tender. The FDI charting of the teeth present in the first visit is reported (Fig. 4). Basic Periodontal Examination (British Society of Periodontology, 2011) was also carried out and the scores are reported (Fig. 5).

Diagnosis of chronic generalised periodontitis exacerbated by having acrylic partial dentures fixed intraorally was made and follow-up appointment with a Specialist in Periodontology was arranged. The upper left second premolar and upper left first molar teeth was diagnosed as having acute apical periodontitis.

Management

The upper left second premolar and upper left first molar teeth that was grossly mobile (Grade 3) and painful was extracted on the patient's request under local analgesia during the first visit.

Further follow-up was arranged for a full mouth debridement. Oral hygiene measures was instituted with emphasis on interdental cleaning as the patient had gross plaque deposits with 100% bleeding on probing score. The patient had never used floss before so dental flossing technique was demonstrated. Removal of calculus was inevitably constrained as the buccal and palatal flanges of the acrylic partial dentures were impeding efforts of debridement. However, ultrasonic scaling followed by hand instrumentation with curettes was attempted.

The acrylic partial dentures made it difficult for the patient to carry out oral hygiene efforts, making the patient a candidate for periodontal disease. Plaque and calculus deposits were in abundance especially around the flanges of the dentures. The patient was unable to clean in the interdental areas and these were the most plaque retentive locations in the mouth. The dentures also damaged the neighbouring teeth and gingivae as the stainless steel wires were abrading the neighbouring teeth and digging into the gingivae when the patient masticates. The flanges were also traumatising the soft tissues.

After discussion with the patient, a decision to remove the acrylic dentures under local analgesia was made. The patient opted to have the dentures removed one at a time. As the patient wanted to maintain an aesthetic appearance for as long as possible, he chooses to have the lower dentures removed first.

Removal of acrylic dentures

During the following visit, local anaesthetic agent was administered to the buccal and lingual aspects of the lower left second premolar. An acrylic bur was used to remove some of the buccal and palatal acrylic of the partial denture. Care was taken to ensure the soft tissues and dental tissues were protected by means of retraction. Removal of the acrylic was stopped when the underlying stainless steel wire was exposed (Fig. 6 and 7).

The wire was found to loop around the lower left first premolar and the lower left second premolar and was a size 0.5 mm. This stainless steel wire was then held secure with an artery clipper and cut using wire cutters before it was removed. After removal of the stainless steel wire, the 'fixed acrylic denture' was easily displaced using digital manipulations.

Follow-up of the patient

After removal of the acrylic partial denture, the patient continued for fortnightly visits to see the periodontal staff nurse and periodontist for his continuing care. Presently, his plaque score and bleeding score is slowly improving with some reductions in mobility. Plans to remove the other acrylic partial denture in his upper dentition are in the immediate treatment plan. Patient is also requesting for prosthetic replacement of his missing teeth once the health of his periodontal tissues improves.

Discussion

Before his visit to our public dental clinic, the patient was not aware that the 'fixed acrylic denture' in his mouth was not the standard treatment for replacing missing teeth. Even though the patient comes from an educated background, he did not suspect that the previous practitioner was practicing quack dentistry. This is contrary to the popular belief that only those from an uneducated background falls prey to quack dentistry.

Equally interesting was that the quack dentist prescribing Mr K's 'fixed

partial dentures' operated in the middle of an established township in a practice that seemed legitimate as claimed by Mr. K. The patient even described a sign hanging in front declaring the practice as a dental clinic with the waiting room full of patients seeking dental treatment. Previous anecdotal narrations describe quack dentistry and street dentistry along the same lines as these practices tended to be very rudimentary and located on the streets (The Star Online, 2010).

Removal of the 'fixed partial dentures' intra orally should use a similar protocol as trimming acrylic dentures i.e. with a high volume aspiration to protect staff and the patient from physical hazards such as aspirating acrylic particles (Sivakumar *et al.*, 2012). Use of a rubber dam is also crucial as the sectioning of the denture inevitably produces many small fragments that may be inhaled or swallowed by the patient (Lynch and McConnell, 2007). Rubber dam may also increase comfort for the patient and prevent swallowing of the acrylic dust that is mixed with saliva. Artery forceps to clamp and secure the stainless steel wires before cutting will prevent the wires from injuring the patient or staff.

Especially for this patient, the 'fixed acrylic dentures' were very damaging as the patient did not have good oral hygiene. Hence, the dentures were a focal point for plaque and calculus to collect, causing infection and suppuration. The patient is also a diabetic which is a risk factor for periodontal disease (Taylor and Borgnakke, 2008). Having two 'fixed acrylic dentures' intra orally with overhanging flanges is also a risk factor for periodontal disease (Akaltan and Kaynak, 2005) as the patient is unable to clean under the dentures. This potentially allowed his periodontal condition to deteriorate further.

Conclusion

It is hoped that this case report will highlight the prevalence of quack dentistry in some areas in Malaysia and allow the authorities to devise means to curb this illegal practice.

Table 1 Dentist: population ratio in Malaysia (2008-2012)

Year	2008	2009	2010	2011	2012
Population	27,882,400	28,081,500	28,588,600	29,062,000	29,517,700
Dentist	3640	3567	3810	4253	4558
Ratio	1: 7,660	1: 7,872	1: 7,503	1: 6,833	1: 6,476



Fig. 1 Buccal view of upper right anterior section.



Fig. 2 Buccal view of lower left second premolar.



Fig. 3 Lingual view of lower left second premolar with denture in place.

		5	4	3		1		1	2	3		5	6	7
7	6	5	4	3	2	1		1	2	3	4	5	6	7

Fig. 4 FDI Charting of teeth present

4	4	4
4	4	4

Fig. 5 Basic Periodontal Examination Index.



Fig. 6 View of lower left quadrant after removal of partial dentures, buccal view.



Fig. 7 The partial dentures after removal.

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