

Dental Quacks Using Autopolymerized Acrylic Resin – A Risk Factor For Oral Cancer

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Abstract

Quackery in dentistry has been practiced over decades. Autopolymerized acrylic resin is the most commonly used dental material by the quacks to fill the cavities and to fix the prosthesis directly in the oral cavity. This article presents the case reports to highlight cytotoxic effects of the autopolymerized acrylic resin used by dental quacks for fabrication of prosthesis which is directly allowed to polymerize in contact with adjacent teeth and gingiva in the oral cavity.

Key Words: Autopolymerized Acrylic Resin, Oral Cancer, Dental Quacks.

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.¹ They most commonly use Autopolymerized/cold cure/self cure acrylic resin directly in the oral cavity and allow it to polymerize to provide immediate dentures and crowns over the gums. Acrylic, both heat cure and cold cure is widely used for complete and partial denture fabrication in dental practice, though the use of Autopolymerized acrylic resins is not recommended for long-term insertion in the mouth.² Interactions of autopolymerized acrylic resin present in oral cavity with multiple factors such as saliva, oral microflora

and mastication leads to release of residual monomer in the oral cavity. This residual monomer is often associated with inflammatory, allergic reactions and even irritation of oral mucosa which further can lead to cancerous lesions in the oral cavity.^{3,4,5} This article presents the case reports on faulty prosthesis done by dental quacks using autopolymerized acrylic resin which can pose as a risk factor for developing oral cancer.

Case Reports

Case 1

A 45 years old female reported to a dental check up camp organized by the Department of Public Health Dentistry, SGT Dental College, Gurgaon. Patient had come with a chief complaint of missing front tooth. Past dental history revealed that the patient had missing

maxillary anterior teeth that were replaced by placing cold cure acrylic prosthesis intraorally and allowing it to cure in the mouth directly, by a road side dentist in her locality. One anterior tooth that was fixed with cold cure acrylic was exfoliated two months prior to reporting to us. On intraoral examination it was found that her teeth 21, 22, 23 and 24 were missing and 22, 23, 24 were replaced with self curing acrylic prosthesis which was fixed to the adjacent teeth and maxillary ridge (Figure 1). Low cost and time saving were the two reasons reported by the patient to get the dental treatment done by the quack.

Case 2

A 39 years old male reported to a dental check up camp organized by the Department of Public Health Dentistry for dental checkup. On



examination, acrylic partial denture was found replacing 46 and bonded to its neighboring teeth with acrylic flanges attached to the buccal and lingual aspects of 45, 47 and gingiva (Figure 2). Dental history revealed that 4 years back patient had got his tooth extracted from a road side dentist and got an artificial tooth fixed 2 months prior to coming to the dental checkup camp. On questioning patient told that he got his missing tooth replaced by a road side dentist at very less cost and without harming the adjacent teeth while the dentist in the city told him that he will have to trim his adjacent teeth to place a bridge that too at a very high cost. Patient was satisfied with the treatment provided by the quack.

Discussion

In both the cases, autopolymerized acrylic resin was used by the quacks. One of the common malpractices in dentistry is fixing a tooth in the edentulous area with the help of acrylic resin on the adjacent teeth. This destroys the adjacent tooth, and causes sore spots below the artificial teeth.⁶

Freshly mixed autopolymerized acrylic resins causes severe burning sensation and it is carcinogenic as well. Products of acrylic based resins biodegradation have been suspected of being a contributing factor for local chemical irritation, pain, mucosal inflammation or ulceration, oral diseases such as a burning mouth syndrome and denture stomatitis.^{2,7} In a study it was observed that, chemically activated acrylic resins produced the greatest cytotoxic effects as compared to heat cure and microwave cured acrylic resins.⁸ Arossi et al reported that monomers of acrylic resins induce toxic genetic events and that mitotic recombination is the main mechanism of action for genetic changes.⁹

The high cost of dental treatment, illiteracy, lack of awareness and poor accessibility to dental clinics forces most patients to go to quacks. Also, quacks

guarantee their patients painless and immediate treatment. Rural people go blindly for such treatment procedures with immense faith in quacks.¹⁰

Conclusion

Autopolymerized acrylic resin is most commonly used dental material by road side dental quacks for filling decayed teeth, to splint the mobile teeth and to convert removable partial denture to be fixed in oral cavity. Health education and awareness should be imparted to the rural population about the cytotoxic and genotoxic potential of the residual monomer leached out from autopolymerized acrylic resin so that its intraoral use can be avoided to prevent oral cancer.

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Figure Legends

Figure 1: Removable partial denture fixed to adjacent teeth and Gingiva with Autopolymerised acrylic resin.



Figure 2: Removable partial denture replacing 46 attached to the buccal and lingual aspects of 45, 47 and Gingiva

