INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

DENTURE IDENTIFICATION SYSTEM USING AADHAR NUMBER FOR ALL INDIAN POPULATION – A CASE REPORT

Prosthodontics

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ABSTRACT

Dentures are not only used to restore the functions of oral cavity, it also plays an effective role in forensic dentistry. Denture labeling system helps in identification of individuals in natural disaster, accidents and is also important for medico legal purpose. various types of denture labeling methods are available, many techniques do not permit to incorporate large amount of information. This case report describes the technique for inclusion of aadhar number which is issued by government of India, a unique identification number for every Indian that could be globally recognized. The aadhar number and quick read code printed in paper for incorporation. This method is less time consuming, durable, cost effective, unique to every Indian and provides all necessary information. A standardized denture labeling method is not followed in India , this case report proposes a standardized identification method for denture labeling.

INTRODUCTION

Denture marking or labeling is not a new concept in either Prosthetic or Forensic dentistry and its routine practice has been urged by Forensic dentists internationally for many years[1]. During natural disaster , road traffic accidents and in geriatric institutions, individuals identification with forensic dentistry has become a fundamental aspect in medico legal investigation [1,2]. Many of the techniques are time consuming, not esthetic, too expensive and do not permit to incorporate large amount of information[3]. This case reports describes the unique, quick, least expensive denture labeling method using aadhar quick read code and number. Aadhar card is issued by government of India to every Indian citizen. It has a 12 digit unique identification number, quick read code and individual address. As the possession of Aadhar card has been made mandatory for all the Indian nationals, it can easily be used as an identification method in forensic odontology for the Indian natives[3].

Technique :

A 66 years old male reported to the department of prosthodontics for the replacement of missing teeth. Denture labeling procedures and advantage were explained to the patient. With the written consent of the patient his aadhar card was obtained from the patient for incorporation of aadhar details into the denture.

Aadhar card photo was taken using mobile camera (16 megapixel) and printed on a photographic paper. Both aadhar number and QR code were separately laminated to prevent contact with monomer particles (figure1). Thus the leaching of printed dye was avoided. After processing of complete dentures for both arches in a conventional manner they were finished and polished. In the maxillary denture a slot was prepared in the center palatal region in a dimension of 2.1cm ×2.1cm and 1.5mm depth to accommodate the QR code. Similarly in the mandibular denture a slot was prepared with a dimension of 2.8cm ×0.9cm and 1.5mm depth in the distolingual flange region to accommodate the patient name and aadhar number (figure no 2).

In the prepared slot the QR code was placed, care was taken not to fold the QR code during placement and it was covered with a thin layer of clear autoploymerizing acrylic resin (DPI Cold Cure, DPI Products and Services Ltd., Mumbai, India) to fill the prepared slot and it was allowed to polymerize. In the mandibular denture, the aadhar number and patients name which was printed on a paper was placed in a similar manner and was also covered with a layer of clear acrylic. Both the dentures were polished again to enhance the quality of embedded

information (figure no 3). The QR code scanner application was downloaded in the mobile phone and was used to scan the QR code (figure no 4). The scan revealed the patient name , age, sex, father's name and address in quick manner (figure no 5).

Figure no 1: Aadhar QR code and aadhar number were photocopied and laminated

Figure no 2: Slot was prepared in the maxillary and mandibular denture to accommodate the QR code

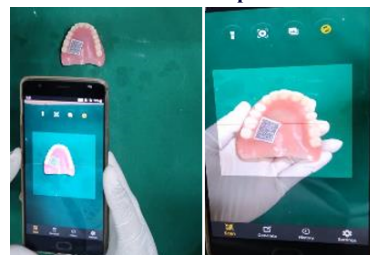**Figure 3 : Dentures were finished and polished after labeling.**

Figure 4 :QR code scanner app is used to read the QR code.

Figure no 5 : Patients complete aadhar details were obtained from the scanner

Figure no 6 : The dentures after insertion in the patient's mouth

DISCUSSION :

The American Dental Association have cited certain criteria for denture marking
- The identification should be specific
- The technique should be simple
- The mark should be fire and solvent resistant
- The denture should not be weakened
- The mark should be cosmetically acceptable

The denture marking can be done in two ways, i) surface marking method ii) inclusion method using metal, micro labels, electronic chips, radiographic films, barcode or memory card[2,4]. The surface method is cost effective, easy to fabricate and is simple. But the drawbacks are, it tends to wear easily and longevity is questionable. The inclusion method is permanent and it provides predictable result[2]. The drawbacks of this method are that it could weaken the denture or may cause porosity. During fabrication of denture with a label the dentist should be aware of the details about the preferred site for placing the denture label. There should be sufficient thickness of denture base for the incorporation of a label. In mandibular denture the most preferred site is the lingual flange and in the maxilla the buccal flange and palatal region of the denture base .

The label can be incorporated into the denture by prefabrication and post fabrication technique. In the prefabrication technique the label is inserted on the intaligo surface after trial closure of flask. Because during insertion this surface requires least adjustment. In the post fabrication technique label is inserted in the prepared site which is located in the flattest portion on the cameo surfaces of the lingual flange of the mandibular denture and/or palate of the maxillary denture[4]. Advantage of this technique is that the label is located on the polished surface of the denture which is covered with a layer of clear acrylic resin. It is enough to resist normal cleansing and even some surface loss, if adjustment is required. It is also esthetically accepted by the patient.

In the United Kingdom, a bonus is offered by the National Health Service to the dentists who label the dentures of the patients, who are in "house" care. In the US, the social security number of the individual is marked on the denture, but this marking is mandatory only in 21 states. Australia uses tax file numbers of the individuals, while in Sweden, the patient's unique personal ID is marked on a metal band and incorporated in the denture. Unfortunately, in India, prosthesis/denture marking is neither taught nor practiced. In India, we need a method that is cost effective and could be easily identified by all the people of the society. The Aadhaar card QR code/number serves just the above mentioned purpose. The Aadhaar card is a biometric card that stores an individual's personal details in a government database[3].

This method is less time consuming, durable, cost effective, unique to every Indian and provides all necessary information.

CONCLUSION:

This case report describes a simple, cost effective, less time consuming method of denture labeling. The labels are laminated thus it is prevented from contact with monomer. By simply scanning the QR code we could identify patient details such as name , age and address in case of emergency situations. The importance of denture labeling using Aadhar card QR code/number should be emphasized by all law enforcing authorities and should be promoted among all dentists, towards making it a compulsory and routine dental procedure throughout the country.

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