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Survey on awareness about Hybrid Cement and Screw Retained Implant Prosthesis among the Dental students and Dental practitioners

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Abstract

Aim: The aim of the study is to assess the knowledge, awareness and perception of hybrid cement and screw retained implant prosthesis as a treatment plan among the dental students and dental practioners.

Materials and Method: This is a cross sectional study which is conducted amongst the 100 dental practitioners and dental students in Thai Moogambigai Dental College and Hospital. This study is to assess the knowledge, awareness and perception of hybrid cement and screw retained implant prosthesis amongst them. 22 questionnaires were prepared and distributed amongst them. The response for this survey is 100%.

Results: In our study, nearly three-quarter of the participants are aware about hybrid prosthesis. Amongst them, less than half of the people think that the failure rate of this prosthesis is low but the fabrication of prosthesis is technique sensitive. Almost one-quarters of the participants are not sure about the prognosis of the irretrievability of cementation of this prosthesis and no occurrence of problems such as deboning; screw loosening and one third of participants think that screw access channel may reduce retention.

Conclusion: This survey concludes that the awareness amongst the people regarding the hybrid cement and screw retained implant prosthesis is adequate and further propagation of information has to be delivered amongst dental students and dental practioners.

Introduction

The dental Implant is a surgical component that interfaces with the bone of the jaw or skull to support a dental prosthesis such as a crown, bridge, denture, facial prosthesis. Fixed implant prosthesis may be either cement or screw retained or combination of both. The hybrid cement and screw retained implant prosthesis can be advised as a treatment option for partially and completely edentulous patients. The hybrid prosthesis has combined advantages of both screw and cement retained implant prosthesis. The cementation of this prosthesis enhances the passive fit and screw enhances the irretrievability, so that the single prosthesis has advantages of both screw and cement retained implant prosthesis. The irretrievability is the only difference between the screw and cement retained prosthesis. In all the situations, the clinician wishes for both passive fit and irretrievability in the same prosthesis. It is believed that hybrid cement and screw retained implant prosthesis plays a major role in that way.

Materials and methods

The survey was conducted amongst 100 dental practitioners and dental students in Thai Moogambigai Dental College

and Hospital. The purpose about the survey was informed to them priory. 22 questionnaires were prepared and distributed among them. The participants of this survey were assured that the information provided by them in this survey is kept confidential.

The questionnaire is prepared on the basis of knowledge about the hybrid cement and screw retained implant prosthesis amongst them. The survey was conducted from October – November 2019.The participants expressed their level of perception about this hybrid cement and screw retained implant prosthesis by choosing an option provided in the question naire.The response for this survey is 100%.

Results

In our study, nearly three-quarter of the participants are aware about hybrid prosthesis. Amongst them, less than half of the people think that the failure rate of this prosthesis is low but the fabrication of prosthesis is technique sensitive. Almost one-quarters of the participants are not sure about the prognosis of the irretrievability of cementation of this prosthesis and occurrence of problems such as deboning, screw loosening and one third of participants think that screw access channel may reduce retention and tapered abutment walls might make the irretrievability of this hybrid prosthesis difficult. Nearly half of the participants think that is necessary to have the ability of retrieving the prosthesis and also prefer 3 years as retrieval period .About 10% of the people are practicing this prosthesis and prefer this prosthesis for severely resorbed alveolar ridges. They also they prefer Zinc Phosphate cement for cementation of this prosthesis. Around one-quarters of the clinicians believe that this hybrid prosthesis will fulfill expectations of the patient.

Discussion

Among our study, nearly three quarter of the participants think that the occurrence of the problems such as deboning, screw loosening are insignificant and this is similar to the study done by Kosmas S George et al on 'Advantages of combined cement and screw retained implant supported prosthesis' in which he mentioned there is no associated problems such as screw loosening and deboning and nearly one third of the participants agree that gingival health can be maintained and it is similar to study done by Abolfazl et al[10] because he believed that due to the irretrievability of the implant gingival health can be maintained.

In this study nearly half of the participants believe that the crown dislodgement will occur as a result of using temporary cement for cementation and it is invariably significant to the study done by Abolfazl et al[10] as the clinicians believed that the temporary cement will lead to crown dislodgement in this hybrid prosthesis. Around half of the participants believe that improper removal of excessive cement is the reason for implant failure in this prosthesis and this is similar to the study done by Alana et al[5] and in vivo study done by Tanimara et al[6] mentioning that improper removal of excessive cement is the one of the reasons for implant failure. Almost one quarter of the participants prefer bone augmentation procedure for this prosthesis in the severely ridge resorbed conditions of edentulous patients which is similar to that of the study done by Dr Rahul et al[6] on 'hybrid cement and screw retained implant prosthesis' in which he reported that this hybrid prosthesis is recommended for the patients with severe ridge resorption conditions. The author considered the bone augmentation procedure is always required for the low volume of bone in edentulous patients for any prosthesis.

Among our study, nearly one third of the participants believe that screw access channel may reduce the crown retention in hybrid cement and screw retained implant prosthesis as they believe that the prognosis of this hybrid implant retained prosthesis is questionable which is contradicting to the study done by Rocha PV et al[11] in

which he proved that the screw access channel does not compromise the crown retention in the hybrid prosthesis.

Nearly half of the clinicians preferred the review every 6 months and the follow up period of 3 years and it is variably significant with the review done by Lemoset al[2] as the author considered that the follow up period for the patients varies with the age and assessment of the type of prosthesis. Almost 50% think this prosthesis as technique sensitive as they believe it requires precise fabrication skill by the dental technician. Though the prosthesis has some hindrances, it has advantages that overtake this prosthesis over others.

Conclusion

The results of the study conclude that the awareness about hybrid cement and screw retained implant prosthesis is optimum amongst dental students and dental practioners and quite a few are practicing this hybrid prosthesis as a treatment option for the missing teeth. Further propagation of information has to be delivered amongst them to become familiar about this hybrid prosthesis which can be achieved through institution and conferences.

We also hereby infer from our study that the sample size of the article and number of questions asked were less also the reasons and criteria of choosing an option as an answer weren't asked, thus an elaborate research has to be done to propagate wholesome information about hybrid cement and screw retained implant prosthesis.

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