

Alginate as a Final Impression Material for Edentulous Jaws: One year Clinical Observation

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Abstract :

Forty cases of edentulous patients have been studied for the functional activities of a prosthetic device. The patients were selected from the outpatient Department of Prosthodontics of Dental Unit, Rajshahi Medical College, Rajshahi. The aim of this study was to overcome the limitation of the availability of paste impression material as well as storage problem of the paste. No significant difference was observed in male or female cases. Retention and Stability tests were positive in 36(90%) cases, whereas, 4(10%) cases showed lack of retention and stability due to reduced surface area and irregular bony foundation.

Key words: Final impression, alginate impression material, edentulous jaws.

Introduction :

Impression is the negative likeness of natural teeth and associated structure of oral tissues. The materials which are used to make an impression are known as impression materials. Accurate making of Final impression is a prime importance for a satisfactory complete denture. Alginate can be used to record final impression of edentulous jaw in acrylic resin tray (with 3mm wax spacer) having perforation or adhesives on the tray.¹ Alginates have good elastic properties and provide good accuracy and surface

details. These are widely used for making impression of complete and partially edentulous mouth.² Alginate impression materials are easy to manipulate, comfortable for both the patient and operator, relatively inexpensive because it does not require elaborate equipment.³ In this study, the border molding materials are sheet variety low fusing compound impression material (compo) which is low priced than sticky variety compo⁴ and one sheet can be used for two cases. And for this reason it is quite economic for both the patient and operator.

Materials & Methods:

This cross-sectional study was carried out in the Prosthodontics Department of Dental unit at Rajshahi Medical Collage from 15th December 2004 to 15th December 2005 and a total number of 40 cases were observed clinically while insertion of the denture followed up for functional efficacy after 1 month. Functional efficacies of the fabricated upper complete dentures were confirmed by multiple functional activities as

well as retention and stability test as described in the text books.⁵

Results:

Denture fabricated from the alginate impression materials, revealed beneficial effects during functional activities for the patient as well as the economic value. 90% cases showed positive responses. It also reduced the price of the impression materials conventionally used previously.

Table-1: Age distribution of patients.

No. of Patients	30-39 Years	40-49 Years	50-59 Years	60-69 Years	70-79 Years
40	6	8	7	15	4
Percentage	15%	20%	17.50%	37.50%	10%

Among 40 patients, majority (37.50%) patients were of 60-69 years age group and the least (10%) were representing 70-79 years age group. Rest of the patients, i.e., 20%, 17.50% and 15% represented 40-49, 50-59 and 30-39 years age groups, respectively.

Fig.1: Gender distribution of patients.

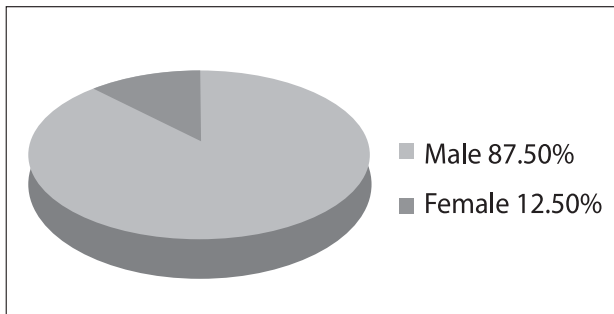
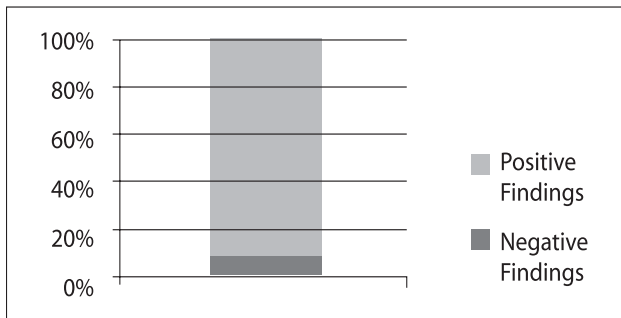


Fig. 2: Functional efficacy of the dentures.



Retention and stability tests were assessed for 40 patients (Fig.2). Thirty six (90%) cases responded positively, whereas, 4(10%) cases showed lack of retention and stability due to reduced surface area and irregular bony foundation.

Discussion :

The final impression is the basic requirement for the fabrication of a complete denture.³ Good retention provides successful functional activities of complete denture prosthesis.^{1,2} Other factors like surface area, saliva, close contact, peripheral seal, non-interfering periphery has also influence on retention but recording the final impression reveals that alginate has the advantage of low price and less storage problem.¹⁻
³ Long term comparative study with paste impression materials is suggestive.

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