Sir,

Maxillofacial rehabilitation is a multidisciplinary management requiring the team approach of maxillofacial surgeons and prosthodontists in improving the patient’s quality of life. Prosthetic design of maxillary obturator prostheses for maxillary defect is a challenging situation due to a number of factors, namely size and location of acquired defect, quantity and integrity of the remaining structures, obtaining lightweight prostheses with favorable retention, stability, support, and obviously optimum obturation to limit fluid leakage through the defect.1,2 We are reporting an easy alternative technique of fabricating a bulb in an obturator by using a silicone elastomer in addition to functional impression method for constructing the maxillary obturator prosthesis. The obturator fabricated following this technique is lighter in weight and have effective peripheral seal during function.

A surgically operated case of squamous-cell carcinoma with removal of a portion of the left maxilla was referred for prosthodontic rehabilitation. Following examination, it was diagnosed as Aramany class II defect (Figure 1). Treatment plan was prepared to fabricate a definitive cobalt chrome framework obturator with silicone elastomer as bulb.

A primary impression was obtained using alginate followed by preparation of a master cast with type-II dental green stone. Design of a metal framework for the obturator preceded fabrication of a cast metal framework in conventional manner followed by evaluation of its fitting clinically (Figure 2) and preparation of a record base using auto-polymerizing acrylic resin (Figure 3a). A denture was fabricated using heat cure acrylic resin following all the orthodox procedures of denture making with one exception that the defective palatal portion was blocked with plaster during flasking. Then, initial try-in of the denture was performed to check retention, stability and occlusion.

Later, a functional impression was obtained using the denture by applying Coe-comfort (GC America) soft tissue conditioner on palatal tissue surface of the denture (Figure 3b) and patient asked to tilt his head upward, downward, right, and left allowing the material to flow inside the defect creating a possible seal around the defect. Excess material was cut out leaving only the bulb part followed by another try-in for checking stability and retention. The patient was then asked to sip water and gargle to detect any fluid leakage and also to observe any changes in the next 2 - 3 weeks of denture usage. When no fluid leakage was observed after 3 weeks evaluation, silicone bulb was fabricated with room temperature vulcanizing (RTV) Silicone A 2006 (Factor II, USA) (Figure 4). Silicone A 2006 was packed into the mould created by half and full flasking of the prosthesis after removing tissue conditioner material and covering all metal components with putty and adhesive primer was applied to the palatal acrylic portion as a precaution.

Many studies have been performed explaining different methods of fabricating hollow bulbs for maxillary obturators targeting to produce a lighter prosthesis. Grinding from outside to the inside of acrylic has been suggested. However, one major concern related to
grinding is inaccurate removal of a portion of lateral margin of the defect by operator, this location is a vulnerable area for fluid passage. Consequently, fluid leakage constantly occurs even though prosthesis is lighter and retentive, thereby rendering failure for the objective.\(^3\),\(^4\) Our proposed technique is relatively easier and can achieve complete functioning. Moreover, this method did not focus on the defective portion of the palate during impression. Primary and secondary impressions aimed to fabricate the framework alone. Once the framework of the obturator was found stable and retentive, the denture can be fabricated without the need to make the bulb. A tissue conditioning material was used along with the denture to obtain the functional impression. Advantageously, this method allows the material to flow toward the corner of the defective side and form a proper seal with the denture fitted into the mouth. RTV silicone was selected as the final material because of its softness and its ability to seal the fluid leakage from oral to nasal cavity.\(^5\) The silicone was attached with the meshwork of the metal framework; not the acrylic part of the obturator. The silicone was mixed and placed over the meshwork. Due to its soft consistency, it got embedded inside the meshwork and when it sets, the silicone is fixed in that position. Use of RTV silicone for bulb fabrication and functional impression technique used in this case provides alternative way for better retentive and complete functioning maxillary obturator (Figure 5).

**Acknowledgement:** This study has been supported by USM short term grant No. 304/ ppsg/61313144.

**REFERENCES**