Fabricating a custom made ocular prosthesis

Dear Sir,

We have read the interesting article on the use of an innovative impression technique for fabrication of a custom-made ocular prosthesis by Tripuraneni et al.[1] We would like to put forth a few important comments regarding the technique.

Merging of the corneal unit obtained from the stock eye to fabricate an ocular prosthesis as performed by the authors cannot be considered as custom made. A separate corneal unit of poly (methyl methacrylate) (PMMA) material, which is hand painted matching the patient’s fellow eye’s iris color, which is then fused with the white acrylic is used in standard custom made prosthesis. Furthermore, there is a chance that the corneal unit obtained from the stock eye may not fuse with the PMMA as both are different materials. Stock eyes are known to cause inflammation and discharge due to poor biocompatibility. Stock eye users need to remove the prosthesis many times in a day to clean the socket due to excessive discharge. In addition, since stock eyes are removed many times in a day, they do not conform to the socket anatomy, cause changes in the socket and lid anatomy and lead to contracted socket.

We would like to put forth a few important comments regarding the technique.
The authors mention that direct instillation of the silicon elastomer into the socket followed by eye closure is beneficial as it helps in recreating the exact shape of the socket. The authors mention in the discussion “impression techniques using custom or stock trays and prefabricated acrylic shells to carry impression materials into the defect interfere with complete closure of eyelids and functional molding of the material by various ocular movements.” However, one unique problem when asking the patient to close his eyes while obtaining a socket impression is the induction of Bell’s phenomenon, which is preserved even in an enucleated eye. This will compromise the impression mold created of the socket and lead to a major disadvantage of ocular prosthesis rotation. Hence, there is no advantage in obtaining an impression with eyes closed as mentioned by the authors. On the contrary, there are some definite benefits of using an impression tray.[2] While obtaining a socket impression we can ask the patient to move his/her eyes in different directions with the impression tray in situ, so that we can obtain the functional impression. A major advantage of the impression tray is the front surface contouring is much easier as opposed to the technique suggested in the article as it provides a normal globe contour. There is no chance of overfill or creation of a protruding artificial eye when an impression tray is used. The palpebral conjunctiva is always smooth and hence one has to have a smooth surface on the finished ocular prosthesis, which is possible due to the smooth contour of the impression tray. Even in cases of chemical/thermal burns the palpebral surface can be accurately recorded with the impression tray in situ. Use of an impression tray helps in defining the superior and inferior fornices and the medial and lateral canthi accurately provided we choose the correct impression tray (one that is of apt size). Prefabricated impression trays are available in various sizes intended for use for the left eye and right eye separately. The tube attached to the impression tray helps in delivering the impression material into the socket. Accurate wax modeling after using an impression tray technique can successfully prevent issues like lagophthalmos.

To conclude, we wish to emphasize that use of impression tray is necessary in all cases. This helps in accurate wax modeling, which is of prime importance in achieving optimal sizing and a comfortable fit of the ocular prosthesis.

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Conflicts of interest
There are no conflicts of interest.

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