Peer Review File

Reviewer A

This article describes a technique for positioning the reconstructed ear for the treatment of microtia. As the author mentioned, the positioning of the reconstructed ear is crucial and it is difficult to determine the position because the landmarks such as eyebrow and nose are far from the ear. The aim of this report is to introduce the new repositioning technique and evaluate it. However, the technique used by the author and similar methods are common and lack novelty.

Reply Reviewer A: Thank you for your valuable advice. accurately locating the reconstructed ear on the affected side before ear reconstruction surgery is the key of successful operation. At present, the location of reconstructed auricle in clinical practice is mostly determined by the experience of plastic surgeons. Currently, plastic surgeons have not found a simple and effective way to accurately locate the reconstructed auricle.

The method of locating the reconstructed auricle used in this study was invented by our ear reconstruction team. The materials used in this novel method included a ruler, a cotton thread and a drawing pen. This novel method mainly took the central axis of the patient's nose as a reference, and determined the upper edge of the reconstructed auricle, the lower edge of the reconstructed auricle, the midpoint of the tragus of the reconstructed auricle and the lowest point of the earlobe of the reconstructed auricle through the vertical intersection of the straightened cotton thread and the central axis of the patient's nose. The tilt angle of the reconstructed ear was determined by the long axis of the reconstructed ear parallel to the central axis of the nose.

At present, most of the studies on auricle reconstruction focused on the surgical methods of auricle reconstruction and auricle scaffold materials used in auricle reconstruction. The researchers have ignored the importance of accurate positioning of the reconstructed auricle. There is no similar positioning method used in the published studies, so we believe that our positioning technology is novel.

Reviewer B

While the study is very interesting and can be a useful addition to the literature, there are some limitations to the study that must be addressed before publication.

1- The authors performed caliper measurements instead of 3D comparison, such as using 3D photography. While the methods are sound, this can be subjective. Did the authors perform inter/intra rater reliability?

2- Did the authors perform this measurement on healthy volunteers? Or are there data available for comparison. It will be great to know the asymmetry in the healthy

population as a comparison.

3- Assessing ear outcomes can be difficult and subjective. There have been many recent studies where machine learning models has been developed to assess ear abnormality and outcomes in infants (listed below). I think the authors should discuss recent articles and other possibilities of assessment to reduce subjectivity and measurement errors.

a. Hallac et al. Assessing outcomes of ear molding therapy by health care providers and convolutional neural network. Scientific Reports volume 11, Article number: 17875 (2021)

b. Hallac et al. Identifying Ear Abnormality from 2D Photographs Using Convolutional Neural Networks. Scientific Reports volume 9, Article number: 18198 (2019)

4- Other use CAD systems for preoperative planning and simulation. Can the also discuss this approach as well to keep up with the current literature?

a. Mussi et al. A computer-aided strategy for preoperative simulation of autologous ear reconstruction procedure. International Journal on Interactive Design and Manufacturing (IJIDeM) volume 15, pages77–80 (2021)

Reply Reviewer B:

1. In order to ensure the objectivity of the evaluation indexes, two researchers measured the evaluation indexes respectively and compared the average results of the two researchers.

2. This novel method of positioning the reconstructed auricle is mainly used for preoperative auricle reconstruction in microtia patients. It has not been used in healthy people. According to your suggestion, we will apply this novel method to healthy people in the future study to verify the accuracy of the novel method.

3. According to your suggestions, the application of the convolutional neural network (CNN) and the computer-aided (CAD) strategy in ear reconstruction and postoperative evaluation are elaborated in the discussion part.

Changes in the text: We have modified our text as advised (see Page 9-10, line 193-206).

Reviewer C

The authors are to be commended for this innovative study to propose a novel method to locate the unilaterally-reconstructed, microtic auricle.

It is not clear based on the information provided in the manuscript whether a single-surgeon performed all of these reconstructions/measurements, or if there were multiple involved. If there were multiple, how many procedures/pre-operative and post-operative measurements were performed by each, respectively?

If the authors could please clarify this point, it would help readers understand if this

tool can be more broadly applied to different practitioners based on the results of this isolated study.

Reply Reviewer C: This novel method of locating the reconstructed auricle was performed by two surgeons, for which one surgeon took measurements, and the other one drew lines by using a marker. The location of the reconstructed auricle was performed before surgery. The surgeon performed auricle reconstruction according to the preoperative marking lines.

Changes in the text: We have modified our text as advised (see Page 5, line 105-109).