Author’s response to reviews

Title: Dysphagia in Patients After Dental Extraction: Surface Electromyography Study

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HEAD AND FACE MEDICINE
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RE: MS#8110944449204017 “DYSPHAGIA IN PATIENTS AFTER DENTAL EXTRATION: SURFACE ELECTROMYOGRAPHY STUDY”

Dear Sirs,

Thank you for your letter of 20 Apr 2006 and for giving us the opportunity to revise our above-mentioned manuscript according to the comments and suggestions of the two Reviewers which you kindly enclosed. We have made extensive changes in this paper accordingly, and each one is described on the attached pages in the same order as they appear on the critiques.

The manuscript is an original contribution and was prepared according to your guidelines for contributing authors. We had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. We state no potential conflicts of financial and non-financial interests and no funding.

Attached please find the article (the main file is in Microsoft Word-2003, Windows-XP). The tables, figures and text were submitted in the same file. The person at the photographic picture is not a patient but a hired model.

We would be happy if you consider the revised version of the manuscript suitable for publication in HEAD AND FACE MEDICINE.

Very sincerely yours,

Michael A. Vaiman, MD, Ph.D  
(corresponding author)

Oded Nahlieli, DMD,

Eli Eliav, DMD
Replies to Reviewer #1 (Ruiving Ding).

We ask the Reviewer to please accept our thanks for the analysis of our paper. We are grateful for his having so clearly pointed out a number of issues that needed to be addressed in order to enhance the clarification of our paper, and we have done so for each citation as follows:

Specific Comments:

- In the Electromyographic techniques section we added clarification where the submental electrodes are to be located: “Two surface electrodes were attached to the skin beneath the chin on the right or left side of midline (beneath the operation side).”

- We thank the Reviewer for pointing out the importance simultaneous fluoroscopy to strengthen the interpretation of results. We use fluoroscopy with contrast barium routinely in our ENT department for stage-by-stage evaluation of dysphagia. In case of healthy volunteers we were able to check five subjects by sEMG + fluoroscopy testing. We did not go in the further discussion of this correlation in the present article because it already was reported and discussed in our previous articles and we did not want to repeat ourselves:

- The indicated typing error was rectified.

- Both 24h and 72h postoperative results are reported in one table (Table 1).

- In the discussion section, mentioning dysphagia caused by salivary gland dysfunction we briefly stated the results of our separate study:

We added now this article in the references section (ref. #20).

- The Reviewer’s point on clarification for electrode attachment is well taken: we added (p. 12): We did not trace significant left-right differences of masseter activity in operated persons during the water swallowing or drinking tests when chewing is not involved. That is why we usually place MS electrode to the side opposite to the operated side (stick-on electrodes are to be pressed against the skin). It is done in order not to cause additional painful sensations in the patients.
Replies to Reviewer #2 (Giselle Carnaby-Mann).

We wish to express our gratitude to the Reviewer for expending so much effort in providing such specific guidelines to help us enhance our paper. We thank the Reviewer for her encouraging remarks and hope that our many revisions will have done justice to her kind words. Our replies are as follows:

- We thank the Reviewer for pointing out the importance of proper odynophagia/dysphagia definitions and cross-relations. In the introduction section (p. 4, 2nd paragraph) we added: “In case of dental surgery, odynophagia and dysphagia are usually related [15,16]. Dysphagia, or difficulty with swallowing, is defined as any defect in the intake or transport of endogenous secretions and nutriments necessary for the maintenance of life. Odynophagia is a painful swallowing. While dysphagia can be with or without pain, odynophagia it its turn can produce secondary dysphagia as patients trying to reduce pain change their normal swallowing patterns.”

In addition to this, in the Discussion section, the 2nd paragraph on p. 12 now reads: “This phenomenon clearly shows that the dysphagia in dental patients is of oral origin and does not affect pharyngeal stage of a swallow. The patients initially have postoperative odynophagia. Trying to reduce the pain, they change their chewing and swallowing patterns. Thus, reducing odynophagia to a tolerated minimum, they get dysphagia instead demonstrating longer duration of swallow, smaller bolus selection, and sEMG changes. In fact, this type of dysphagia is secondary to odynophagia. A patient tries to spare the operated site, does not clench teeth and, therefore, does not involve masseter in the acts of swallowing and drinking.”

- The Controls subjects are described (p. 5) as follows: “The control group included 40 healthy adult volunteers (F 24, M16, age mean = 29.7 years), usually relatives of the patients. Before the study all subjects completed a questionnaire regarding their general health and their medical history. Subjects had … no history of medical problems or medications that might affect swallowing and drinking (for control group) (inclusion criterion).” And further on the exclusion criteria are indicated as lack of disease of tempomandibular joint or any respiratory diseases, which might affect breathing, and lack of other oral abnormalities.

- Most of the primary statistics were made by the Neurodyne computer program for the EMG device we used (mean ± SD). Further statistical analysis was done with SPSS software, Standard version 10.0.5 (SPSS, Chicago, IL, 1999). A \( \chi^2 \) criterion using 95% confident interval was used to compare categorical variables, and \( t \)-test to compare continuous variables. The level of significance for all analyses was set at \( p<0.05 \). The \( \alpha \) level was set at 0.05. At the same time, we had followed the Reviewers’ advice to express interjudge reliability in a measure stronger that % agreement, thus it was changed: “Interjudge reliability was assessed by comparing scores obtained for each swallowing trial for each of the two tasks. Two judges blinded to group assignment were involved and the test observer agreement was good (Kappa coefficient 0.81)” (p. 8).

- The discussion on the ROSS text has been omitted (p. 4) following the suggestion of the Reviewer.

- Inclusion and exclusion criteria for the patients and the volunteers are indicated on the p. 5: “Before the study all subjects completed a questionnaire regarding their general health and their medical history. Subjects had no history of dysphagia or odynophagia prior dental surgery (for patients), and no history of medical problems or medications that might affect swallowing and drinking (for control
group) (inclusion criterion). All subjects had normal oral anatomical structures and complete dentition with an exception of operated site (patients) (inclusion criterion). None of patients and healthy volunteers had a history or symptoms of abnormality or disease of tempomandibular joint or any respiratory diseases, which might affect breathing (exclusion criteria). All subjects were assessed by the dental surgeons prior to their participation to the study to rule out possible oral abnormalities other than operated site (exclusion criterion).”

- The proper picture with electrode placement replaced the previous inaccurate figure.
- P. 8 – simultaneous videofluoroscopic swallows of 5 volunteers. Both Reviewers paid attention to this statement but with different viewpoints. We omitted a part of the statement and kept this info short, actually just to mention that it was done to check the reliability of the sEMG research. Please see the reply to the Reviewer #1.
- Spelling errors and unclear wording have been rectified. Specifically for the word “objectivization” I found 116 articles in the PubMed using this word. However I think that the Reviewer’s remark is right and in our article “objectivization” was changed into “objective evaluation”.