Acupuncture for paresthesia/anaesthesia elimination after dental implantation complications: A case report.

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Abstract

It has been reported that dental procedures, as dental extraction or implantation, can produce paresthesia or anaesthesia sensations in some patients for several months or even (in a low percentage) permanently. The objective of this communication is to deliver an acupuncture protocol, based on Chinese medicine classical knowledge to eliminate paresthesia or anaesthesia of chin and lips after a dental procedure intervention. A case report of successful anaesthesia elimination will be fully described.

A 49 yrs old female had dental implantation at the 2nd mandibular premolar at the right side. After intervention the anesthesia sensation in chin and lip (only right side) continued for two weeks. After that period, acupuncture procedure was initiated in 45 min. sessions, once per week, during four weeks. The acupuncture point selection was made according to the balance method reasoning.

After the first treatment the patient referred a small increase in sensation in the chin but any change on the lip. During the second treatment, a full recovery of the sensation at the chin was felt immediately after the session. The lip remained with the anesthesia sensation. At the beginning of third treatment only a residual anesthesia sensation was on the upper part of the lower lip (right side), indicating that a change between the second and third acupuncture sessions. After the fourth session the anesthesia sensation of both chin and lip were eliminated.

As a conclusion the present case report indicates that acupuncture may be an interesting treatment for chin and lip anesthesia or paresthesia due to mandibular nerve trauma after dental interventions. However, the suggested protocol should still be tested in a controlled trial.

Keywords: nerve trauma, acupuncture, anesthesia, paresthesia

Introduction

There exists great variation in the nomenclature used to describe the clinical signs and symptoms concerning related to peripheral nerve injuries. The most commonly used term to describe an altered sensation is paresthesia. Paresthesia has been used to describe several abnormal sensations, such as warmth, cold, pain, tingling, aching, burning and numbness (1). A standardized nomenclature system, most frequently used for neurosensory alterations was presently described by the Association for the Study of Pain (2). Thus, three distinct categories were considered, as paresthesia; dysesthesia and anesthesia, where the most significant change is paresthesia concerning the altered sensation that is not unpleasant.

Mandibular nerve trauma due to dental procedures can result in temporary or permanent anesthesia (absence of all sensory modalities) or paresthesia (an abnormal sensation) (3). These altered sensations after dental interventions (e.g. teeth removal, implants, surgery) have been extensively studied and reported (4, 5). Quality of life of patients that undergo such altered sensations is highly reduced. Conventional treatment may include surgical or non-surgical treatments (6), use of medication (steroids) (7) and acupuncture (6).

The present article reports a clinical case of a patient that experienced anesthesia of chin and lower lip (right side) after dental implantation that was treated by acupuncture. The acupuncture treatment was based on the balanced method that relies entirely on Traditional Chinese Medicine therapy. Although the balance method is largely used to treat pain, the same approach was performed to treat anesthesia/paresthesia.

So, in this context, the present work aims to define an acupuncture protocol to treat anesthesia or paresthesia sensation on chin and lower lip due to mandibular nerve trauma. Thus, the patient reported a full recovery in four-week treatment protocol (once per week).
Methods

Case Description - A 49 years old female was submitted to a dental implantation at the location of the second mandibular premolar at the right side. Chemical anesthesia was used for the procedure. No complications were reported during the procedure. For the following two weeks after one week of the implantation the anesthesia sensation in chin and lip (only right side) continued and pain irradiating to the face. The patient asked the dental practitioner to remove the implant but the anesthesia sensation continued for another week at the chin and lower lip, right side. Two weeks after the first intervention, acupuncture procedure was initiated in 45 minutes sessions, once per week, during four weeks. The acupuncture point selection was made according to the balance method reasoning.

Acupuncture protocol - Under the TCM description of trajectory of the channels (meridians), the affected area (face, chin and lip) corresponds mostly to the trajectory of the Stomach and Large Intestinal channel. The balance method is fully based in TCM philosophy (8-10). Under this method’s reasoning, the affected channels should never be punctured locally (11). Instead, the affected channels should be treated using other channels that have the ability to balance them (8, 9). The balance method uses several perceptive of the duality of the Yin-Yang philosophy to generate five different balancing systems. In the present clinical case we have used the system I to balance the channels that were proximal to the affected area. According to the system I, the Stomach channel is balanced by the Large Intestinal channel and vice-versa (9, 12).

Additionally, the balance method states that points in the hands or feet can affect areas of the head (9, 13). Thus, we have looked for sensitive points in the hand and foot that were contra-lateral to the affected area. The points Hegu (LI4), Sanjian (LI3), Erjian (LI2), Shangyang (LI1) were used in the left hand only to balance the Stomach channel of the right face (unilateral puncture). Furthermore, the points Lidui (ST42), Xiangu (ST43) and Neiting (ST44) were used to balance the Large Intestinal. For the third and fourth treatment, we added additional points of the Liver channel located in the right foot. This choice was made has the remaining anesthesia was more located on the lip, which is more related with large intestinal channel, and that according to the balance method’s system II, can be treated also with Liver channel points. Points like Dadun (LV1), Xingjian (LV2), Taichong (LV3) were additionally added to the protocol. Table 1 indicates the points used in the present protocol in detail.

The duration of each acupuncture treatment was 45 minutes and was repeated in four consecutive weeks, once per week.

Results

A graphical explanation of the change in sensation with time (T0 to T3) is depicted in Figure 1, according to the patient’s description. After the first treatment the patient referred a small increase in sensation in the chin (Figure 1 – T1), but also reported that the anesthesia feeling at the lip was unchanged. During the second treatment a full recovery of the sensation at the chin was felt immediately after the session.

Additionally, the lip sensation changed from anesthesia to paresthesia indicating some recovery of the sensation in the area. At the third treatment, the patient referred a gradual elimination of the paresthesia sensation at the lower lip and only a residual paresthesia sensation remained at the upper part of the lower lip seven days after the third treatment. After the fourth session, the patient referred a full elimination of the remaining paresthesia sensation in the lip (T4 not shown).

Thus, after the four treatments a full recovery of the sensation in both chin and lips were reported. Six month after the treatment no regression of the state of sensation was reported. The patient indicated a full recovery of quality of life in relation to the anesthesia/paresthesia feelings.

Discussion

The understanding of the mechanisms of actions of acupuncture treatments is still in progress (14). It has been proved that acupuncture can reduce or even eliminate pain. Some acupuncture procedures using electro-acupuncture induce an anesthesia state and thus a consequent pain reduction (15). The mechanism of action of electro-acupuncture has been extensively explained elsewhere (16-18). However, in the present case report, we present an elimination of a state of anesthesia due to mandibular nerve trauma. The aim of the presentation of this study case is to define a possible protocol of treatment of anesthesia or paresthesia.

<table>
<thead>
<tr>
<th>Acupuncture Point</th>
<th>Puncture side</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shangyang</td>
<td>Contra-Lateral</td>
<td>LI1</td>
</tr>
<tr>
<td>Erjian</td>
<td>Contra-Lateral</td>
<td>LI2</td>
</tr>
<tr>
<td>Sanjian</td>
<td>Contra-Lateral</td>
<td>LI3</td>
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<tr>
<td>Hegu</td>
<td>Contra-Lateral</td>
<td>LI4</td>
</tr>
<tr>
<td>Lidui</td>
<td>Contra-Lateral</td>
<td>ST42</td>
</tr>
<tr>
<td>Xiangu</td>
<td>Contra-Lateral</td>
<td>ST43</td>
</tr>
<tr>
<td>Neiting</td>
<td>Contra-Lateral</td>
<td>ST44</td>
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<tr>
<td>Dadun</td>
<td>Homo-lateral</td>
<td>LV1</td>
</tr>
<tr>
<td>Xingjian</td>
<td>Homo-lateral</td>
<td>LV2</td>
</tr>
<tr>
<td>Taichong</td>
<td>Homo-lateral</td>
<td>LV3</td>
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</tbody>
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* Puncture side relatively to the altered sensation location.
of patients that suffered a mandibular nerve trauma due to dental procedure intervention, regardless of the mechanism of action. The case study indicates a gradual improvement between treatments. Although this gradual improvement of the anesthesia or paresthesia sensation may occur naturally, we also reported a sudden change in paresthesia feeling in one specific treatment (Figure 1 – T2) in a time window of 30 minutes. Natural changes in anesthesia or paresthesia are expected to occur in a superior time window (weeks or months) or may not occur at all, resulting in a permanent anesthesia or paresthesia sensation.

The balance method is known to induce a fast pain reduction (minutes to one hour) with no use of electro-acupuncture and never needing the affected area. This could explain the fast reduction of paresthesia felt in T2. This case report sets the basis for future research in the validity of this specific acupuncture treatment protocol for reduction or elimination of anesthesia/paresthesia due to mandibular nerve trauma. Additionally, it may stimulate the research in understanding the mechanisms of action of distal acupuncture points to treat physical disorders.

Conclusions
A 49 years old woman had a mandibular nerve trauma with consequent anesthesia feeling in half chin (right side) and lower lip (right side). A full recovery of anesthesia and paresthesia sensation was achieved within four weeks of acupuncture treatment. Evidence that the reported recovery was achieved due to acupuncture treatment is based on a fast reduction in paresthesia (in 30 minutes) at the second session of acupuncture. However, further studies are needed to explain the mechanisms of action of acupuncture in this type of injury and to prove that the results obtained are fully related with the treatments applied.

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References
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