

Improved Body Flexibility Following Removal of a Miniscrew Implant

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Abstract

A 65-year-old woman, who had been suffering from inflexibility, neck and eye pain as well as general discomfort and stiffness, experienced an improvement in her symptoms upon the removal of a dental miniscrew implant. However, her symptoms returned when the implant was placed near her foot. Her symptoms continued to improve for 6 months. We hypothesize that the cause of her symptoms is linked to electromagnetic waves attracted by the implant. However, the exact underlying mechanism remains unclear, and further research is required in cooperation with the dental, medical, and related fields.

Keywords

Dental Implant, Electromagnetic Waves, Body Flexibility, Electromagnetic Hypersensitivity

1. Introduction

A dental implant is a surgical structure that connects to the jaw or skull bone to support a dental prosthesis, such as a crown, bridge, denture, or orthodontic appliance. Risks and complications associated with implant therapy have been divided into those that occur during surgery (e.g., an infection at the implant site; injury or damage to the surrounding structures, such as other teeth or blood vessels; nerve damage, which can cause pain, numbness, or tingling in natural teeth, gums, lips or chin; and sinus problems when dental implants placed in the upper jaw protrude into the sinus cavity) [1], within the first 6 months following surgery (including an infection and failure to osseointegrate), and over the long-term (including peri-implantitis and mechanical failure) [2]. In the presence of healthy tissues, a well-osseointegrated implant with appropriate biomechanical loads can have long-term success rates of 93% - 98% for the fixture [3] [4] [5] and a lifespan of 10 - 15 years for the prosthetic teeth [6]. However, even

if an implant is well osseointegrated, it may attract harmful electromagnetic waves, resulting in many adverse systemic conditions [7] [8] [9]. A miniscrew implant has a peculiar shape compared with other types of implants and is primarily used as an orthodontic anchor. Miniscrew implants can provide stationary anchorage for various tooth movements and make it possible to move the tooth in directions that are impossible using traditional orthodontic mechanics. On the other hand, the clinical use of miniscrew anchorage includes some risks (*i.e.*, screw fracture, damage to the soft tissues, and injury to hard tissues [10]). However, the systemic effects of miniscrew implants are not well established. This study presents a case in which many affected body conditions improved after the removal of a miniscrew implant.

2. Case Presentation

5 years prior to this study, the patient (a 65-year-old woman) received a miniscrew implant in her right lower jaw to do the orthodontics of the residual teeth, before inserting a partial denture to compensate for missing teeth. However, she began experiencing symptoms of inflexibility, neck and eye pain as well as general discomfort and stiffness after receiving a dental miniscrew implant.

At the first visit to the dental clinic, the miniscrew was implanted into the molar portion of her right lower jaw (**Figure 1, Figure 2**). However, her treatment was discontinued because of her symptoms, and therefore, no orthodontic appliance or permanent prosthesis was placed on the implant. There was no evidence of pathology, such as inflammation surrounding the implant or local subjective symptoms (e.g., pain). Although the dentist in charge denied the relationship between the implantation and body issues, the author removed the implant by twisting it out using a plier under topical anesthesia (**Figure 3, Figure 4**). Immediately after removing the implant, the pa-



Figure 1. The implanted miniscrew in the molar portion of the patient's right lower jaw (indicated by the arrow).



Figure 2. Implanted miniscrew displayed as a panoramic radiograph image (arrow).

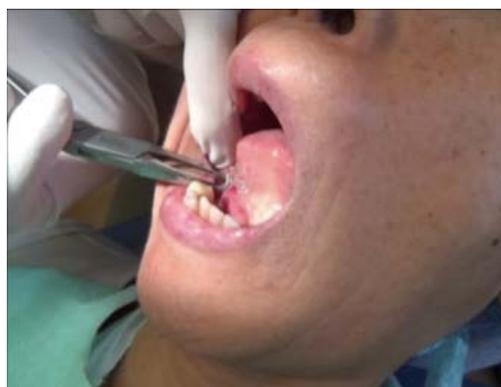


Figure 3. The implant was removed by twisting it out with a plier under topical anesthesia.



Figure 4. The removed implant.

patient's symptoms improved. In particular, her flexibility noticeably increased (**Figure 5**). However, she became less flexible when the removed implant was placed near her foot (**Figure 6**). When the implant was moved away, she regained flexibility. Following the removal of the implant, the author fitted the patient with a partial denture. Her body flexibility continued to improve over the next 6 months (**Figure 7**). She received no other treatment to the author's knowledge.



Figure 5. The patient could touch the floor easily after the implant was removed.



Figure 6. The subject could not touch the floor when the removed implant was placed near her feet (indicated by the arrow).

3. Discussion

Through the development of electronic technology, electronic devices, such as cell phones or personal computers (PCs) have spread worldwide in recent years [11] [12]. However, there have been several reports of physical abnormalities occurring because



Figure 7. Flexibility continued to improve 6 months after the removal of the miniscrew implant.

of electromagnetic waves emitted by such electronic devices [13]-[20]. In addition, the incidence of adverse biological effects due to electromagnetic waves may be increasing. Such unpleasant symptoms are termed as electromagnetic hypersensitivity. This condition includes many symptoms, such as headaches, fatigue, tinnitus, dizziness, memory loss, irregular heartbeats, and dermatological symptoms, which are considered to be caused by electromagnetic hypersensitivity [21] [22] [23] [24] [25].

There have been previous reports of a case in which dizziness and joint mobility disorders were induced by harmful electromagnetic waves collected by a dental onlay [26] and a case in which balance dysregulation and dizziness were induced by harmful electromagnetic waves collected by a dental amalgam filling [27]. Cases in which dental implants may have collected harmful electromagnetic waves have also been reported [7] [8] [9] [28]. Similar to the aforementioned cases, the miniscrew implant described in the present case may have collected harmful electromagnetic waves, resulting in the patient's reported symptoms. However, this case also clarified that a miniscrew implant might collect harmful electromagnetic waves resulting in several types of physical symptoms because the patient reported that she was completely healthy before receiving the miniscrew implant and that she had no other health problems. Furthermore, the electromagnetic field emitted by a commercial cell phone affects the regional cerebral flow in humans, suggesting that electromagnetic waves may induce changes in neuronal activity [29].

Despite evidence supporting an array of possibilities, the underlying mechanism of the patient's symptoms has not been clarified, and additional research is required in cooperation with the dental, medical, and related fields in order to adequately address this issue.

The actual experiment conducted in this case can be observed in the YouTube video:

“Body flexibility regaining after an implant removal”.

<https://www.youtube.com/watch?v=zu-XVZNFts> (last accessed 10/Oct/20156).

4. Conclusion

Miniscrew implantation is very useful for orthodontic treatment. However, this case report showed that many systemic symptoms, such as neck pain, eye pain, discomfort, shoulder stiffness, and body stiffness improved after removal of the miniscrew implant. The results suggest that harmful electromagnetic waves collected by the implant can affect the body. Accordingly, testing for the adverse effects of electromagnetic waves is required before dental implant surgery. Further research involving multidisciplinary cooperation may shed light on the underlying mechanisms.

Statement

The patient orally consented to publication.

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