

The prevalence of lip numbness in women after implant insertion

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Abstract

Background and Aim: Since all of the surgeries may have complications during the course of treatment, to reduce these complications and reduce their concerns, this study was done to determine the Incidence of Lip Numbness after implant surgery in women at 1396 (2017).

Methods: This is a descriptive cross-sectional study that was performed on 360 women treated with implants. The data gathering tool was a researcher-made questionnaire whose validity and reliability were confirmed by the experts and then filled in from the patient records. After data collection, data were analyzed using descriptive statistics and statistical tests using spss23 software. The significance level was less than 0.05.

Results: The most complications were observed during 11-15 days (39.2%) after implantation. In the mandible, the highest percentage of post-implantation complications was associated to bruising (40.8%) and the lip numbness was about 3.9%. in this study the rate of complications were about: Inflammation (23%), increase body temperature (12%), numbness of lip (2.4%), bleeding (31%), and bruising (29.8%).

Conclusion: The incidence of lip numbness is low among women. The most lip numbness is associated with the mandibular implant.

Keywords: Implant, Lip numbness, Implant complications

INTRODUCTION

Nowadays, the goals of modern dentistry are based on the reconstruction of the shape, comfort, esthetic, speech and health of patients, which could be achieved by using implants. Dental implants have a valuable condition in dentistry without damaging the oral and jaw system (1). Individuals who have lost their teeth for a variety of reasons, such as dental caries, gum disease, dental trauma, fractures, and crashes can use dental implants. During the implant treatment, we encounter some complications, most

of which are reversible and normal (2). Post-implantation complications may occur in every body, which depends on the patient's clinical conditions and the number of implants. Like all surgeries, these complications may be observed during the course of treatment. Complications such as pain, bleeding, swelling, inflammation, bruising, increased body temperature, and feeling of post-implantation numbness may be observed. One of the most serious post-implantation complications is tingling and numbness of the lips (3). In case of severe injury, the numbness will be irreversible and need to microscopic surgery for nerve transplantation. Silva *et al.* showed in their study a prevalence rate of 55.15% for the numbness of the the lips after the surgery (4). Temporary or permanent injury to the mandibular alveolar nerve is one of the most common and serious complications that the dentist encounters after insertion of the implant (5). Juodzbalys *et al* reported this 40% (6). It differs from mild to complete

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numbness depending on the degree of nerve injury and sensation changes in the chin and lower lip (7). This can affect the patient's speech, drinking and even eating (8). There is likelihood of numbness in the lower lip and post-implantation bruising caused by bleeding. Also, the postoperative body temperature may increase following a normal body reaction. The postoperative swelling and inflammation are frequently seen in patients and will be improved 48 to 72 hours later (9). The aim of this study was to determine the prevalence of numbness of the corner of the lips after implantation in women in 2017.

METHODOLOGY

This study is a cross-sectional descriptive study performed on 360 women underwent dental implantation. The sampling method was used to survey all women whose medical records were recorded. Then, women who met the inclusion criteria were selected in the study. After explaining the study objects and taking consent form the subjects were later studied. The data collection tool included a researcher-made questionnaire which the validity and reliability of it were confirmed by the relevant experts and then filled based on the patients' medical record. This questionnaire consisted of 2 sections, demographic questions, and questions about the implant complications. Demographic questions included: Age and implantation time. Other questions were categorized into 5 types of complications: Bleeding, inflammation, numbness of the corner of lips, bruising, increased body temperature, divided into maxillary implants, mandibular implants and both jaws. After data collection, data were analyzed using descriptive statistics and statistical tests in SPSS Ver. 23. P value < 0.05 was considered as the significance level.

FINDINGS

A total of 360 patients were studied in this study. The mean \pm SD of participants' age was 46 ± 11.19 years. The minimum and maximum age groups included 27 and 68 years old, respectively. The highest frequency was observed in individuals aged 44 years (10%). Mean \pm SD of the complication duration (which was studied from 1 day to 4 months after the implant) was 31 to 45

± 2.7 . Also, the highest complication duration was 11 to 15 days (39.2%) after implantation (Table 1). Bruising was the most frequent complication (38.8%) in terms of post-implantation complications. The results showed that as the age increases, the risk of complication increases ($p=0.01$). The percentages of inflammation, increased body temperature, numbness of the corner of the lips, bleeding and bruising were 16.9%, 20.7%, 2%, 21.6% and 38.8%, respectively (Table 2). Post-implantation bruising, increased body temperature and inflammation were improved up to 15 days after surgery ($p=0.004$) while the numbness of the corner of the lips was observed up to 30 days after the surgery ($p=0.001$). The results of the maxillary jaw examination showed that bruising accounted for the highest percentage of complications occurred (40.8%) and no case of numbness was reported at the corner of the lip (Table 3). In the mandibular jaw the results showed that the highest percentage of post-implant complications was related to bruising (35.8%) and the numbness of the corner of the lips was reported to be 3.9% (Table 4). The results of investigating both jaws in terms of post-implant complications showed a high percentage of bruising (32.2%) and then bleeding (31.2%), respectively (Table 5).

DISCUSSION

The present study aimed to evaluate the prevalence of post-implantation numbness of the lips in women. The findings of this study showed that the reported complication increases with age. Also, post-implantation complications occurred more frequently in the early days, and fewer complications were seen almost 4 months after treatment. The longest complication duration observed in this study was 11-15 days after implantation. Walton *et al.*, reported that the highest complication rate was seen 2 weeks later, and only 1% of subjects reported this complication after 1 year. Their study showed no relationship between gender and lip numbness (10). The findings of Shahakbari *et al.*'s study showed that Their study's parameters were not worse 6 months after surgery and most of them were significantly improved (11). In this study, the complication was assessed up to 4 months, when the patients were improved and the severity of the complication was reduced. Bruising was the complication seen in most of women after implantation;

Table 1: The time of observing the post-implantation complication

Time period	Frequency	Frequency percentage	Time period	Frequency	Frequency percentage
1 to 5 days	2	1.7	6 to 10 days	8	6.7
11 to 15 days	47	39.2	16 to 20 days	11	9.2
21 to 25 days	17	14.2	26 to 30 days	14	11.7
31 to 45 days	11	9.2	46 to 60 days	2	1.7
61 to 75 days	2	1.7	76 to 90 days	2	1.7
91 to 105 days	2	1.7	106 to 120 days	2	1.7

Table 2: Frequency percentage of post implantation complications at 3 groups

Title	Frequency	Frequency percentage
Bleeding	75	21.6
Inflammation	59	16.9
Numbness in the lip corner	6	2
Increased body temperature	74	20.7
Bruising	133	38.8

Table 3: Frequency percentage of post implantation complications in the maxilla

Title	Frequency	Frequency percentage
Bleeding	17	14.3
Inflammation	28	23.7
Numbness in the lip corner	0	0
Increased body temperature	24	21.2
Bruising	51	40.8

Table 4: Frequency percentage of post implantation complications in the mandible

Title	Frequency	Frequency percentage
Bleeding	19	15.8
Inflammation	20	16.8
Numbness in the lip corner	5	3.9
Increased body temperature	33	27.7
Bruising	43	35.8

Table 5: Frequency percentage of post implantation complications in both jaws

Title	Frequency	Frequency percentage
Bleeding	40	31.2
Inflammation	21	19.8
Numbness in the lip corner	1	1.4
Increased body temperature	17	15.4
Bruising	41	32.2

however, no study has been carried out in this regard. Post-implantation bleeding improved after 15 to 20 minutes. The cold water and sterilized gauze compress had been used to reduce the bleeding. Fazel *et al.* reported the rate of bleeding about 63% that was improved (12). The fever was improved in most individuals after 2 days in this study. Fever was prevalent for to 2 days in women who were complaining of numbness of the lip corner. Post-implantation numbness of the corner of the lips was seen in 0.5% of women who complained of post-implantation bruising. The longest bruising duration was 10 to 15 days after the implantation. There was no significant relationship between the presence of post-implantation inflammation

and the numbness of the lip corner, but there was a significant correlation between bleeding and bruising. The longest duration of inflammation was reported to be 7 days. Bruising was the most commonly observed complication in the maxillary jaw. Bruising was also the most frequent complication in the mandibular jaw. bruising, bleeding and increased body temperature were the most commonly reported cases of complication in women who had implants in both jaws. Momota *et al.* found in their study observed numbness in the lower lip after treatment (13). Al-Sabbagh *et al.* reported lip numbness in the mandibular jaw that may occur due to mechanical damage during dental implantation. Hartmann *et al.* showed that those treated with implants reported numbness in the mandibular jaw because of injury to the alveolar nerve. The percentage of numbness of the corner of the lips after the implantation was reported to be 45.3% (14). Simmons *et al.* reported in their study repeated and prolonged bleeding from 3 to 7 days after surgery (15). Moreno *et al.* reported an regular bleeding after surgery. Their results showed that bleeding was not reported eight days after implantation, as well as major clots lead a failure in implantation, and severe bleeding requires special medical care. There was no sign of inflammation among patients and recovery time was normal (16). Georgiev stated that there may be some serious bleeding during and after the implantation, which should prevented by taking well-planned consideration. The rate of post-implantation inflammation was reported to be high in subjects who did not follow oral and dental health after surgery (17). Greenstein stated that that the post-implantation lip numbness could be prevented using radiography (18). in Khawaja *et al.*'s study Implants were placed in the mandibular jaw, which was related to the first molar teeth, and numbness of lips and right chin were observed in the patient after the implantation. Also, another patient who underwent 4 implant placement in the left side the mandibular jaw complained about and lip numbness that was improved one day later (19). In a research, Misch, referred to post-operative infection, bleeding, swelling, change in facial color, transient pain, lip numbness, speech changes, and trismus as post-implantation complications. He also attributed inflammation to problems such as non-compliance with oral and dental hygiene after and during implantation in an environment with previous inflammation (20).

CONCLUSION

The prevalence of numbness in the corner of lips is low, but the duration improvement is greater than the other post-implantation complications. The highest numbness rate was seen in mandibular jaw implantation, which may be due to the damage to the nerve of this area and symptoms

include numbness of the lower lip and chin, and sometimes even abnormal pains. To prevent post-implantation stress and concerns on numbness of the corner of the lips, full information must be given about before inserting the implants because in most of the patients it is a temporary complication and will heal.

REFERENCES

- Saboury A, Hashemi Khakbaz P. Comparison of porcelain fractures in the metal-ceramic implant-supported and tooth-supported crowns in patients referred to Specialist Ward of Fixed Prosthodontics Department: Shahid Beheshti University of Medical Sciences, Dental School: 2001-2010. *Shahid Beheshti University Dental Journal*. 2011;29(1):1-7.
- HosieniZarch SH, MohammadzadehRezaei Z. Evaluation of accuracy of conventional tomography in determination of mandibular canal position. *J Mashad Dent Sch*. 2009;33(1):233-25.
- Zide BM, McCarthy J. The mentalis muscle: an essential component of chin and lower lip position. *Plastic and reconstructive surgery*. 1989;83(3):413-20.
- Silva FMS, Cortez ALV, Moreira RWF, Mazzone R. Complications of intraoral donor site for bone grafting prior to implant placement. *Implant dentistry*. 2006;15(4):420-6.
- Poort LJ, van Neck JW, van der Wal KG. Sensory testing of inferior alveolar nerve injuries: A review of methods used in prospective studies. *Journal of Oral and Maxillofacial Surgery*. 2009;67(2):292-300.
- Juodzbaly G, Wang H-L, Sabaly G. Injury of the inferior alveolar nerve during implant placement: A literature review. *Journal of oral & maxillofacial research*. 2011;2(1).
- Alhassani AA, AlGhamdi AST. Inferior alveolar nerve injury in implant dentistry: Diagnosis, causes, prevention, and management. *Journal of Oral Implantology*. 2010;36(5):401-7.
- Juodzbaly G, Wang HL, Sabaly G, Sidlauskas A, Galindo-Moreno P. Inferior alveolar nerve injury associated with implant surgery. *Clinical oral implants research*. 2013;24(2):183-90.
- Tufekcioglu S, Delilbasi C, Gurler G, Dilaver E, Ozer N. Is 2 mm a safe distance from the inferior alveolar canal to avoid neurosensory complications in implant surgery? *Nigerian Journal of Clinical Practice*. 2017;20(3):274-7.
- Walton JN. Altered sensation associated with implants in the anterior mandible: A prospective study. *The Journal of prosthetic dentistry*. 2000;83(4):443-9.
- Shahakbari R, Eshghpour M, Mokhtari MR, KazemiMoghadam A. Evaluation of Maxillary Second Molar Periodontal Problems after Tuberosity Bone Graft Harvesting. *Journal of Mashhad Dental School*. 2015;39(1):43-50.
- Fazel A, Rismanchian M. Clinical evaluation of soft tissue surrounding prosthesis supported by implants. *The Journal of Islamic Dental Association of IRAN (JIDA)*. 2006;18(1):73-7.
- Momota Y, Kani K, Takano H, Azuma M. Cerebellopontine angle mass mimicking lingual nerve injury after dental implant placement: A case report. *Australian dental journal*. 2015;60(3):412-5.
- Hartmann A, Welte J, Zyck C, Seiler M, Daubländer M. Neurophysiological changes associated with implant placement. *Clinical oral implants research*. 2017;28(5):576-81.
- Simmons KB, Edelman AB, Fu R, Jensen JT. Tamoxifen for the treatment of breakthrough bleeding with the etonogestrel implant: a randomized controlled trial. *Contraception*. 2017;95(2):198-204.
- Gómez-Moreno G, Aguilar-Salvatierra A, Fernández-Cejas E, Delgado-Ruiz RA, Markovic A, Calvo J, Guirado JL. Dental implant surgery in patients in treatment with the anticoagulant oral rivaroxaban. *Clinical oral implants research*. 2016;27(6):730-3.
- Georgiev O, Nogalchev E. Local complications occurring during dental implantation. 2010.
- Greenstein G, Tarnow D. The mental foramen and nerve: Clinical and anatomical factors related to dental implant placement: A literature review. *Journal of periodontology*. 2006;77(12):1933-43.
- Khawaja N, Renton T. Case studies on implant removal influencing the resolution of inferior alveolar nerve injury. *British dental journal*. 2009;206(7):365-70.
- Misch K, Wang HL. Implant surgery complications: Etiology and treatment. *Implant dentistry*. 2008 Jun 1;17(2):159-68.

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