Misch International Implant Institute

Newsletter 11 December 2019

UPCOMING COURSES (East Coast)

SURGICAL SESSIONS

Come see us at our NEW East Coast location

Margaritaville Resort
Orlando, Florida

Session 1
February 21-22, 2020
Patient Evaluation, Treatment Planning, & Implant Placement into Abundant Bone

Session 2
April 3 - 4, 2020
Treatment of the Edentulous Arch

Session 3
May 29 - 30, 2020
Implant Placement & Bone Augmentation into Compromised Sites

Session 4
July 10 -11, 2020
Treatment of the Posterior Maxilla: Osteotome & Lateral Wall Technique

Session 5
September 25-26, 2020
Immediate Placement & Loading, Soft Tissue Considerations

IMPLANT COMPLICATIONS
April 24 - 25, 2020
Miami, Florida

CBCT BOOT CAMP
May 28, 2020
Orlando, Florida

CAN PATIENTS BE ALLERGIC TO TITANIUM DENTAL IMPLANTS?

by Randolph R. Resnik, DMD, MDS

Hypersensitivity to titanium is an ever-increasing reportable complication in medicine today. There exist many case reports of titanium alloy hypersensitivity including failed total hip prostheses, titanium-implanted cardiac pacemakers, surgical clips, and dental implants. With respect to dental implants, there appears to be an allergic correlation with titanium implants, which unfortunately is not fully understood with minimal research available.

Studies

In the dental literature, reports of allergic reactions to titanium implants are rather minimal. However, many authors recently have suggested a higher than expected incidence of titanium alloy allergy with respect to dental implants. It is widely accepted that the true incidence of titanium hypersensitivity is underreported, mainly due to a poor understanding of implant failure or allergy. Sicilia et. al. evaluated over 1500 patients and reported a 0.6 % prevalence of titanium failure.

Possible Etiology:

The use of titanium alloys (aluminum, beryllium, palladium, vanadium, etc.) are most commonly used in oral implantology today because of the higher strength in comparison to pure titanium. It has been postulated that small amounts of titanium alloys may act systemically as "impurities", which may lead to triggering allergic reactions. Because all metal alloys undergo a slow release of ions from their implant surface, corrosion risks and detrimental effects from the byproducts are possible. The sensitivity to the titanium ions has been shown to be directly related to the presence of macrophages and T-lymphocytes, which may result in a type IV hypersensitivity reaction.

Clinical Symptoms:

Titanium hypersensitivity is usually diagnosed by signs and symptoms which may include a rash urticaria, pruritus, localized soft tissue inflammation, swelling in the orofacial region, oral or facial erythema, eczema lesions of the face, or hyperplastic peri-implant mucosa. In some cases, implant failure may result, usually as early implant failure (rapid exfoliation). Clinical reports have associated titanium allergy with multiple implant failure in the same patient (cluster phenomenon).

Hypersensitivity Testing:

Patients who present with a history of metal or titanium allergy hypersensitivity should be evaluated. At this time, two tests are available.

1. **Patch Test:**

Titanium hypersensitivity may be diagnosed using a 'patch-test' , where various metal allergens are applied to the skin for 3–4 days. Usually an erythematous reaction is considered positive. However, patch tests have been associated with false-positive or false-negative results. Current patch tests have been shown to be approximately 75% accurate for type IV hypersensitivity metal allergy.

2. **Blood Test**

The lymphocyte transformation test (LTT) or Memory Lymphocyte Immuno- Stimulation Assay (MELISA) has been shown to detect sensitization to titanium in patients. In addition, the MELISA test is capable of determining which metals may be tolerated and which may initiate undesirable immune responses.

Treatment

If a known hypersensitivity is determined, an alternative dental implant material should be utilized. The most common alternatives today are zirconia and polyetheretherketone (PEEK) dental implants. Currently, zirconia is an accepted material, which has been shown to have high success rates along with recent improvements in physical properties, osseointegration, and clinical applications. PEEK implants have a similar elastic modulus to that of bone, therefore have numerous biomechanical advantages. Currently not clinically available, they are being evaluated with numerous clinical studies.

Summary:

How prevalent titanium dental implant titanium hypersensitivity is in oral implantology today is a contentious issue. More studies are required to establish the incidence and associated complications with these types of hypersensitivity reactions. The biologic effects of the dental implant corrosion and the presence of ions/particles systemically is becoming a more commonly discussed subject. Until then, clinicians must be conscious of the signs and symptoms of potential titanium hypersensitivity and be able to utilize alternative dental implant materials if needed.

see references below

UPCOMING COURSES (West Coast)

SURGICAL SESSIONS

Come see us at our NEW West Coast location

Omni Mandalay Bay at Los Colinas
Dallas, Texas

Session 1
~~Sept. 27-28, 2019~~ SOLD OUT
Patient Evaluation, Treatment Planning, & Implant Placement into Abundant Bone

Session 2
~~Nov. 1-2, 2019~~ SOLD OUT
Treatment of the Edentulous Arch

Session 3
~~Dec. 6-7, 2019~~ SOLD OUT
Implant Placement & Bone Augmentation into Compromised Sites

Session 4
Jan. 10-11 2020
Treatment of the Posterior Maxilla: Osteotome & Lateral Wall Technique

Session 5
March 6-7, 2020
Immediate Placement & Loading, Soft Tissue Considerations

CBCT BOOT CAMP
December 5, 2019
Dallas, TX

TEAM TRAINING
March 6-7, 2020
Dallas, TX

IMPLANT PROSTHETICS
June 11-13, 2020
Louisville KY

Misch International Implant Institute

SURGICAL SESSION 4:

Treatment of the Posterior Maxilla: Osteotome & Lateral Wall Technique

January 10-11, 2020 Dallas, TX

COURSE TOPICS:

- Use of Short Implants in the Posterior Maxilla
- Osteotome Grafting Techniques
- Osseodensification Techniques
- Lateral Wall Sinus Augmentation
- Maxillary Sinus CBCT Normal vs. Abnormal Anatomy
- Maxillary Sinus CBCT Pathology
- Treatment of Posterior Maxilla Complications
- Avoiding Posterior Maxilla Complications
- CBCT Interactive Treatment Planning
- Pharmacologic Management (Therapeutic & Prophylactic)
- Previously Recorded Surgeries
- Implant Fees / Insurance Coding
- Practice Management - Integrating Implants Into Your Practice

HANDS - ON LAB:

- SA-1 Implant Placement - Short Implants
- SA-2 Implant Placement - Implant Placement + Bump
- SA-3 Implant Placement + Transcrestal Graft
- SA-3 Implant Placement + Lateral Wall Augmentation
- Lateral Wall Augmentation
  - Pilot Guide Placement - Universal Guide Lateral Wall Surgical Templates
  - Use of PiezoSurgery Units

CLICK HERE TO REGISTER

TEAM TRAINING IS BACK!!!

March 6 -7, 2020 Dallas, TX

PROGRAM AUDIENCE:

- Front Office Staff
- Assistants
- Hygienists

COURSE TOPICS:

- Starting an Implant Practice
- Internal/External Marketing
- Room Set-Ups
- Surgical / Prosthetic Assisting Protocol
- Armamentarium
- Patient Treatment Plan Discussion
- Implant Fees / Insurance
- Implant Forms
- Implant Maintenance
- Social Media Advertising

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35th YEAR ANNIVERSARY LECTURE

Misch Institute Reunion

TUITION: FREE FOR ALL MISCH GRADUATES (Pre-Symposium)

Tribute to the Life of Dr. Carl Misch

Current Hot Topics and Protocols in Implant Dentistry

- Latest Socket Graft Protocols
- Osseodensification
- Immediate Placement Protocols
- Immediate Loading Technique
- Bone Growth Factors
- Full Arch Zirconia Prosthesis
- Stackable Surgical Tempate Techniques
- Peri Implant Disease (Detoxification and Grafting Techniques)

ICOI Winter Pre-Symposium

February 27, 2020

8:00 am - 12:00 pm

Houston,TX

Misch International Implant Institute

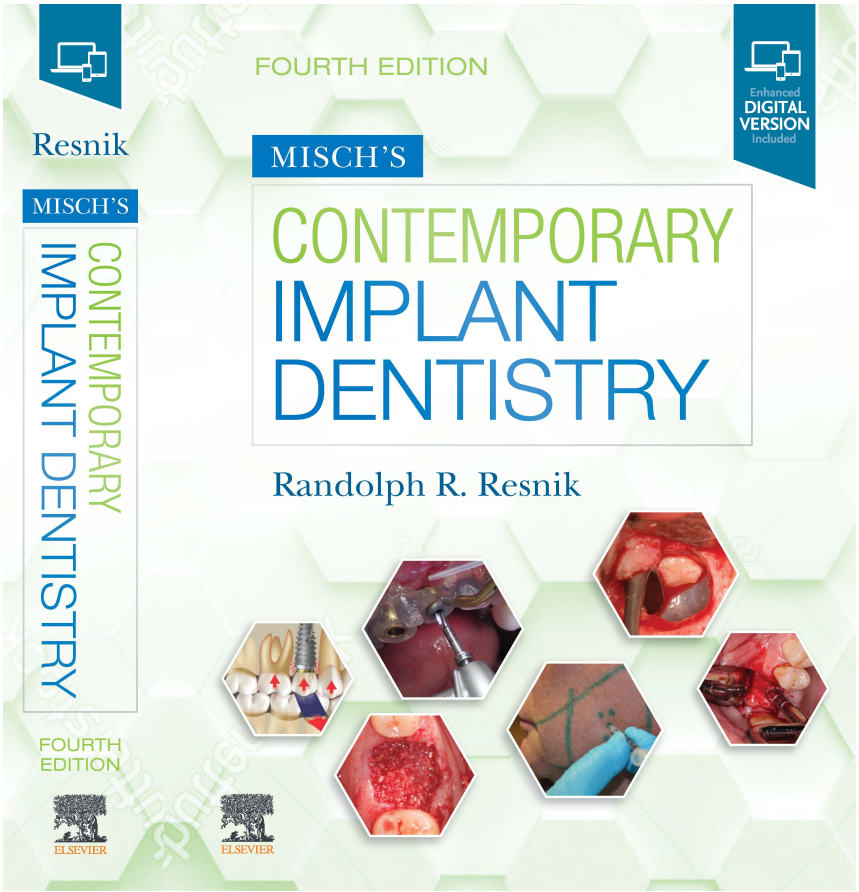
QUESTIONS OF THE MONTH

#1: CBCT ANATOMY QUESTION

On this cross-sectional CBCT image of a failing implant, an artifact/object is noted on the buccal aspect of the anterior mandible. What is this artifact/object?

#2 IMPLANT STUDY OF THE MONTH:

In a recent 3D finite stress analysis study evaluating splinted (Bar) vs. unsplinted (Independent Attachments) maxillary implants for an overdenture, which showed less stress at the implant and abutment interface?



4th Edition

Contemporary Implant Dentistry

by Randolph R. Resnik

*** Over 1300 Pages**
***42 Chapters**

Expected Release January 2020

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ANSWERS

CBCT Question #1

Answer: ***Silicone Chin Implant used in chin augmentation procedures.***

Implant Study of the Month Question #2

Answer:

1. Higher values of STRESS in the implants, abutments, and the crestal bone are associated with non-splint design.
2. Regardless of the type of support (splinted and unsplinted), the most distal implants endured higher values of stress.
3. The prosthetic attachment system over a non-splinted maxillary overdenture experiences more stress values than a splinted design.

Geramy, Allahyar, and Sareh Habibzadeh. "Stress distribution in splinted and unsplinted implant-supported maxillary overdentures: a 3D finite element analysis." Implant dentistry27.1 (2018): 56-62.

Article References

[1] Granchi D, Sensitivity to implant materials in patients undergoing total hip replacement. J Biomed Mater Res B Appl Biomater 2006;77:257-64
[2]Yamauchi R, Morita A, Tsuji T. Pacemaker dermatitis from titanium. Contact Dermatitis 2000;42:52-3.
[3]Tamai K, A case of allergic reaction to surgical metal clips inserted for postoperative boost irradiation in a patient undergoing breast-conserving therapy. Breast Cancer 2001;8:90-2.
[4]Schramm M, Pitto RP. Clinical relevance of allergological tests in total hip joint replacement. In: Willmann G, Zweymuller K, editor. Bioceramics in Hip joint replacement. New York, USA: Thieme; 2000. p. 101-6.
[5]Bass JK, Fine H, Cisneros GJ. Nickel hypersensitivity in the orthodontic patient. Am J Orthod Dentofacial Orthop 1993;103:280-5.
[6]A. Sicilia, S. Cuesta, G. Coma, I. Arregui, C. Guisasola, E. Ruiz, et al. Titanium allergy in dental implant patients: a clinical study on 1500 consecutive patients Clinical Oral Implants Research, 19 (2008), pp. 823–835
[7]Chaturvedi, T. P. "Allergy related to dental implant and its clinical significance." Clinical, cosmetic and investigational dentistry 5 (2013): 57.
[8]Goutam, Manish, et al. "Titanium allergy: a literature review." Indian journal of dermatology 59.6 (2014): 630.
[9]Forte G, Petrucci F, Bocca B. Metal allergens of growing significance: epidemiology, immunotoxicology, strategies for testing and prevention. Inflamm Allergy Drug