Oral Surgery Care

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Summer Greetings!

Enjoy our quarterly summaries of recent oral surgery and dental implant literature articles. Our first review adds yet more data to the growing consensus that ibuprofen combined with acetaminophen has better effectiveness than other options, including opioids, in managing post-dental procedure pain.

We truly appreciate being a part of your patient care team. Let me know anytime we can be of help, or if you have a suggestion to make the referral process easier for you or your patients.

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Best Regards,

Dr. Brent Florine

Acute Postoperative Pain Due to Dental Extraction in the Adult Population

A Miroshnychenko, S Ibrahim, et al.
J Dent Res 2023 Apr;102(4):391-401

This study compares the effectiveness of pharmacological treatments to develop guidelines for the management of acute pain after tooth extraction. The authors searched Medline, EMBASE, CENTRAL, and US Clinical Trials registry on November 21, 2020. They included randomized clinical trials (RCTs) of participants undergoing dental extractions comparing 10 interventions, including acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), opioids, and combinations to placebo. After duplicate screening and data abstraction, the authors conducted an analysis for each outcome at 6 h (i.e., pain relief, total pain relief [TOTPAR], summed pain intensity difference [SPID], global efficacy rating, rescue analgesia, and adverse effects). They assessed the risk of bias and the certainty of evidence using the Grading of Recommendations, Assessment, Development, and Evaluation approach.

The investigators implemented the analyses and classified interventions from most to least beneficial or harmful and they included 82 RCTs. Fifty-six RCTs enrolling 9,095 participants found moderate- and high-certainty evidence that ibuprofen 200 to 400 mg plus acetaminophen 500 to 1,000 mg (mean difference compared to placebo [MDp], 1.68, acetaminophen 650 mg plus oxycodone 10 mg (MDp, 1.19;), ibuprofen 400 mg (MDp, 1.31), and naproxen 400-440 mg (MDp, 1.44) were most effective for pain relief on a 0 to 4 scale. Oxycodone 5 mg, codeine 60 mg, and tramadol 37.5 mg plus acetaminophen 325 mg were no better than placebo. The results for TOTPAR, SPID, global efficacy rating, and rescue analgesia were similar. Based on low- and very low-certainty evidence, most interventions were classified as no more harmful than placebo for most adverse effects. *The authors conclude that based on moderate- and high-certainty evidence, NSAIDs with or without acetaminophen result in better pain-related outcomes than opioids with or without acetaminophen (except acetaminophen 650 mg plus oxycodone 10 mg) or placebo.*

Standardized Tool for the Assessment of Bruxism

Daniele Manfredini, Jari Ahlberg, et al.
J Oral Rehabil 2023 Jan 3

This paper attempts to present and describe the Standardized Tool for the Assessment of Bruxism (STAB), an instrument that was developed to provide a multidimensional evaluation of bruxism status, comorbid conditions, etiology and consequences. The rationale for creating the tool and the road map that led to the selection of items included in the STAB has been discussed in previous publications. The tool consists of two axes, specifically dedicated

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Dr. Brent Florine received his undergrad degree from the University of Minnesota College of Liberal Arts and attended the University of Minnesota School of Dentistry. He received postgraduate dental and oral and maxillofacial surgery training at Louisiana State University and Charity Hospital in New Orleans, and the University of Minnesota Hospitals and Clinics. He is certified as a Diplomate of the American Board of Oral and Maxillofacial Surgery and has practiced oral surgery in Eagan since 1987.

Standardized Tool...*continued*

to the evaluation of bruxism status and consequences (Axis A) and of bruxism risk and etiological factors and comorbid conditions (Axis B). The tool includes 14 domains, accounting for a total of 66 items. Axis A includes the self-reported information on bruxism status and possible consequences (subject-based report) together with the clinical (examiner report) and instrumental (technology report) assessment. The Subject-Based Assessment (SBA) includes domains on Sleep Bruxism (A1), Awake Bruxism (A2) and Patient's Complaints (A3), with information based on patients' self-report. The Clinically Based Assessment (CBA) includes domains on Joints and Muscles (A4), Intra- and Extra-Oral Tissues (A5) and Teeth and Restorations (A6), based on information collected by an examiner.

The Instrumentally Based Assessment (IBA) includes domains on Sleep Bruxism (A7), Awake Bruxism (A8) and the use of Additional Instruments (A9), based on the information gathered with the use of technological devices. Axis B includes the self-reported information (subject-based report) on factors and conditions that may have an etiological or comorbid association with bruxism. It includes domains on Psychosocial Assessment (B1), Concurrent Sleep-related Conditions Assessment (B2), Concurrent Non-Sleep Conditions Assessment (B3), Prescribed Medications and Use of Substances Assessment (B4) and Additional Factors Assessment (B5). As a rule, whenever possible, existing instruments, either in full or partial form (i.e. specific subscales), are included. A user's guide for scoring the different items is also provided to ease administration.

he authors concluded that this instrument is now ready for on-field testing and further refinement. It can be anticipated that it will help in collecting data on bruxism in such a comprehensive way to have an impact on several clinical and research fields.

Onset of Oral Lichenoid Lesions and Oral Lichen Planus Following COVID-19 Vaccination

Moritz Hertel, Andrea Schmidt-Westhausen, et al.
Vaccines (Basel) 2022 March;10(3):480-487

Onset of oral lichenoid lesions (OLL) or oral lichen planus (OLP) can be rare adverse reactions to vaccines. Recently, the first solitary cases were reported after COVID-19 vaccination. The purpose of the present study was to assess if an increased frequency of OLL/OLP can be found after COVID-19 vaccination within a large real-world cohort. It was assumed that the incidence of OLL/OLP was significantly higher in subjects who received COVID-19 vaccine (cohort I) compared to individuals who were not vaccinated (cohort II). Initial cohorts of 274,481 vaccinated and 9,429,892 not vaccinated patients were retrieved from the TriNetX database (TriNetX, Cambridge, Massachusetts, USA), and matched for age, gender and the frequency of use of non-steroidal anti-inflammatory drugs, beta blockers, and angiotensin-converting enzyme inhibitors.

After matching each cohort, the authors accounted for 217,863 patients. Among cohort I, 146 individuals had developed OLL/OLP within 6 days after COVID-19 vaccination (88 and 58 subjects had received mRNA- and adenovirus vector-based vaccines), whereas in cohort II, 59 patients were newly diagnosed with OLL/OLP within 6 days after having visited the clinic for any other reason. The risk of developing OLL/OLP was calculated as 0.067% vs. 0.027%, for cohorts I and II which was considered highly significant.

The authors' hypothesis was confirmed. Accordingly, the obtained results suggest that the onset of OLL/OLP is a rare adverse drug reaction to COVID-19 vaccines, especially to mRNA vaccines. Thus far, it remains unknown if specific components of the formulations cause a type IV hypersensitive reaction corresponding to OLL, or if the immune response post vaccination triggers a T cell-driven autoimmune reaction directed against the basal layer of keratinocytes of the oral mucosa in terms of OLP. *Although OLL and OLP are both classified as premalignant lesions, spontaneous remission may be expected over time, at least in the case of OLL. The authors believe the presented findings should not place any limitation toward the use of COVID-19-vaccines in broad levels of the population.*

The Prosthetic-Biologic Connection and Its Influence on Peri-implant Health

Int J Oral Maxillofac Implants 2022 Jul-Aug;37(4):690-699
Muhammad Saleh, Matthew Galli, et al.

Prosthetic design is a critical step in implant treatment planning that must synchronize with implant positioning to promote a state of peri-implant health. Improperly designed prostheses may not only hinder patient (or professional) hygiene measures but also impact the ability of clinicians to examine the peri-implant supporting tissues for diagnostic purposes. The purpose of this review was to discuss the current state of the evidence surrounding prosthetic factors associated with peri-implant diseases. Following the chronologic order of implant treatment, key prosthetic variables were discussed in relation to peri-implant disease pathogenesis.

Specific concepts including the impact of implant spatial positioning, abutment height, residual cement, and implant splinting were found to be associated with peri-implant disease pathogenesis. Excessive occlusal forces were found to play a role in susceptibility to prosthetic complications with limited evidence to suggest a role in peri-implant disease progression. *The authors found that an intimate prosthetic-biologic connection exists, which must be respected to promote an environment for long-term peri-implant stability and health.*