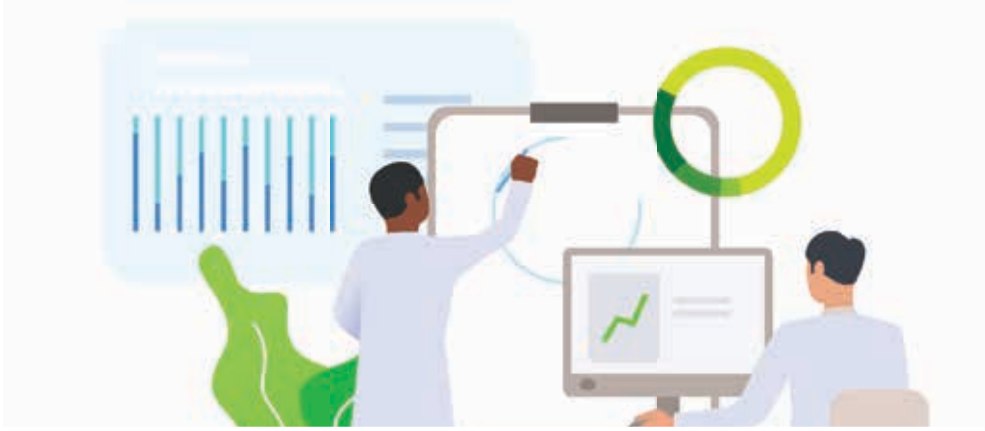
November 2021

TEXAS DENTAL Journal

Texas DentalAssociation's
Gold Medal for Distinguished
Service Winner:

Dr John Purdy



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Texas Dental Association's Gold Medal for Distinguished Service Winner: Dr John Purdy

DEPARTMENTS

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TDA President
Debrah J. Worsham, DDS

As we gather with friends and family during this special season of gratitude, hopefully, we are making some cherished memories along the way. But with the blessings that flow during this time of year, we sometimes find ourselves busier than ever and running in too many directions.

It's a busy time for TDA as well. After the ADA House of Delegates Annual Session in Las Vegas in October, the TDA Board of Directors met in Austin in early November. The TDA Smiles Foundation held a 2 day/40 chair TMOM event in San Antonio, and at least one TDA Council is working to wrap up an end of year project. Local component visits have had me traveling to Houston, Tyler, and College Station.

While on these road trips, I've glimpsed fellowship in action in several different ways:

- I've observed long lasting relationships continuing to grow.
- I've noticed newly formed friendships taking root.
- I've witnessed mentorships in the making.

These are continual reminders that the strength of organized dentistry begins at the local level. I urge you to attend your component meeting, especially if you haven't been in awhile. Call or text an old friend or a new dentist you've only recently met, and invite them to go with you. There is strength in relationships, and mingling and mixing with peers revitalizes and energizes us. Isolation is not good for our stress level or our mental well being, but fellowship is good for the soul!

As you scan this journal issue, please take time to read about one of our peers in "An American Adventure." This article highlights Dr John Purdy, TDA's 2021 Gold Medal Award winner. Dr Purdy became involved in his local society early in his career and he continues to give back to the El Paso community in many ways. It was inspiring to see him receive this honor at the TDA House of Delegates in May. Congratulations, Dr John Purdy, on this special achievement!

The 2022 dues statements were mailed recently and I encourage you to examine yours. The back of the statement highlights many tangible benefits offered by TDA:

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Dr. Canfield

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Case History

A 35-year-old male was referred to an oral and maxillofacial surgeon for clinical examination of several exophytic lesions located on the lower labial mucosa and right lateral border of the tongue. He reported that the lesions on his lip had been present since his freshmen year of high school, about 20 years ago, and he was unaware of any other family members having similar lesions. He reported no pain, numbness, or change in the size of the lesions. The patient's medical history was significant for hypertension and hypercholesteremia, and his social history was significant for smoking 1 pack/day for 6 years. His current medications included Lisinopril, a multivitamin, and Omega-3.

Upon examination, the patient exhibited several pink, exophytic lesions, with a pebbly to smooth surface, along the lower labial mucosa (Figure 1).

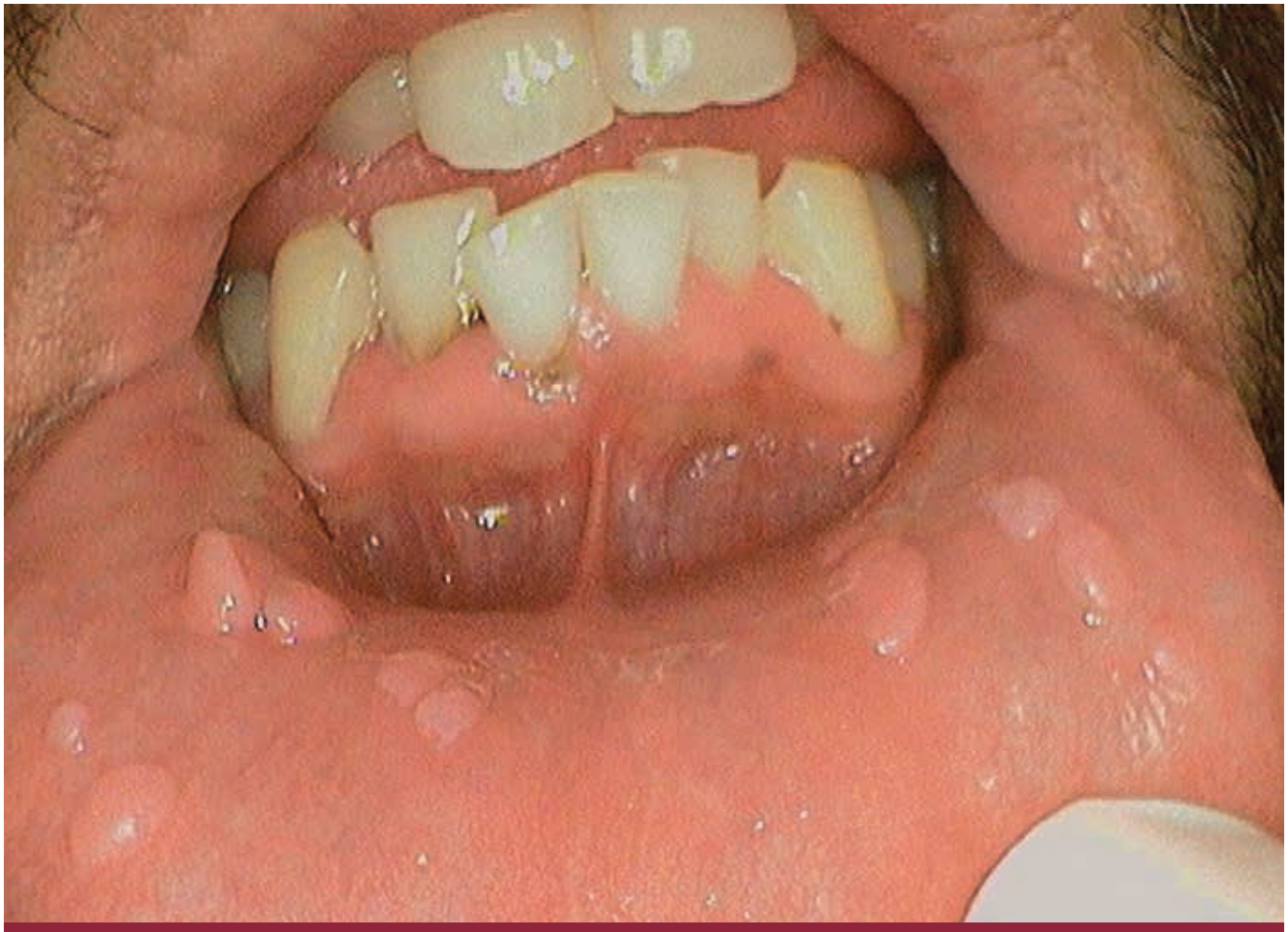

Figure 1. *Multiple exophytic lesions of the inner lower lip mucosa*

Additionally, he also had similar lesions along the right lateral border of the tongue (Figure 2). The lesions varied in size from 0.5 cm to 1.0 cm in diameter, were slightly firm when compressed, and asymptomatic. Poor oral hygiene was noted with pericoronitis being observed adjacent to #17 and generalized chronic periodontitis.

Several lesions from the lower labial mucosa and one of the lesions from the right lateral tongue were biopsied and submitted for histopathologic examination. Clinical consideration was given to possible soft tissue lesions including multiple fibromas and papillomas. Taking into consideration the patient's clinical findings, the differential diagnosis included: multifocal epithelial hyperplasia (Heck disease), multiple condylomas, and verruciform xanthoma.

The histopathologic findings revealed several nodular exophytic masses surfaced by acanthotic stratified squamous epithelium, with wide and confluent rete ridges

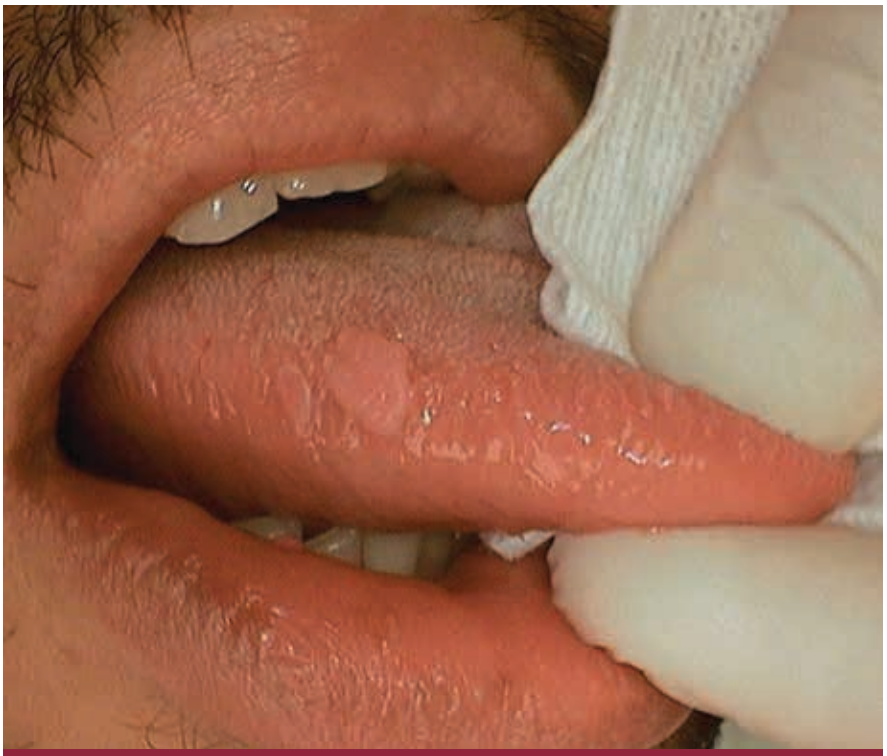

Figure 2. *Exophytic lesions of the right border of the tongue.*

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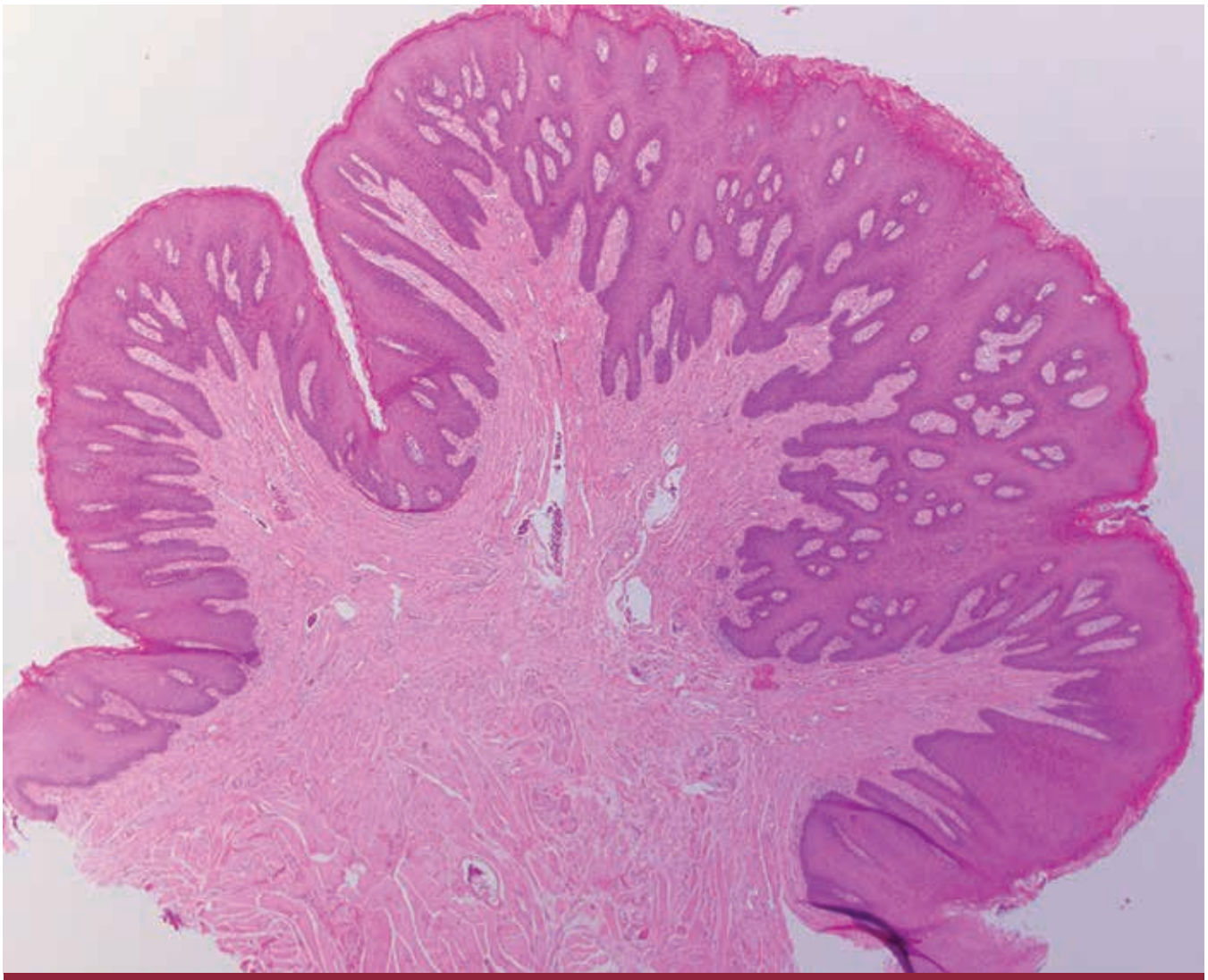


Figure 3. *Exophytic lesion with acanthomatous epithelial surface.*

(Figure 3). Koilocytic change of the keratinocytes in the spinous cell layer of the epithelium was noted (Figure 4). Several mitosoid cells were seen throughout the spinous cell layer of the epithelium (Figure 5). The underlying fibrous connective tissue was well vascularized and composed of loosely arranged collagen fibers interspersed with fibroblasts. An inflammatory infiltrate composed of lymphocytes and plasma cells was present throughout the fibrous connective tissue.

What is your diagnosis?

See page 750 for the answer and discussion.

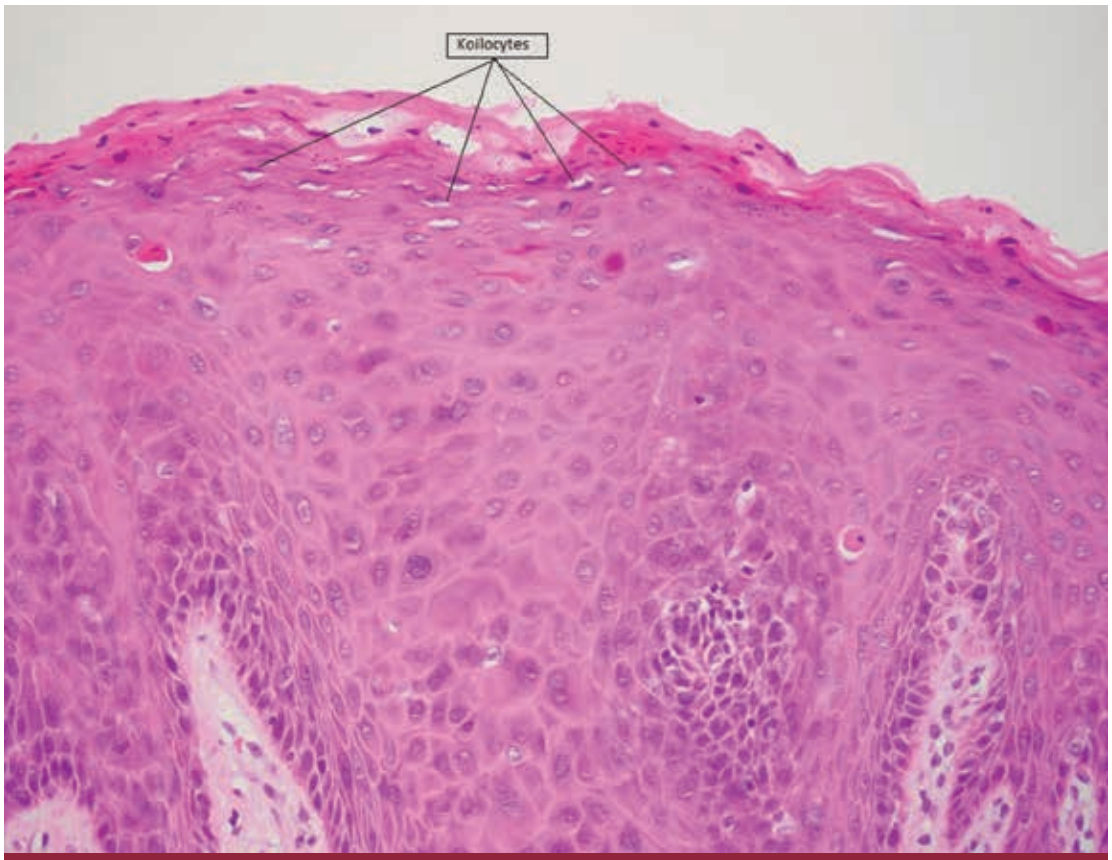


Figure 4. *Koilocytic change in the upper surface of the epithelium.*

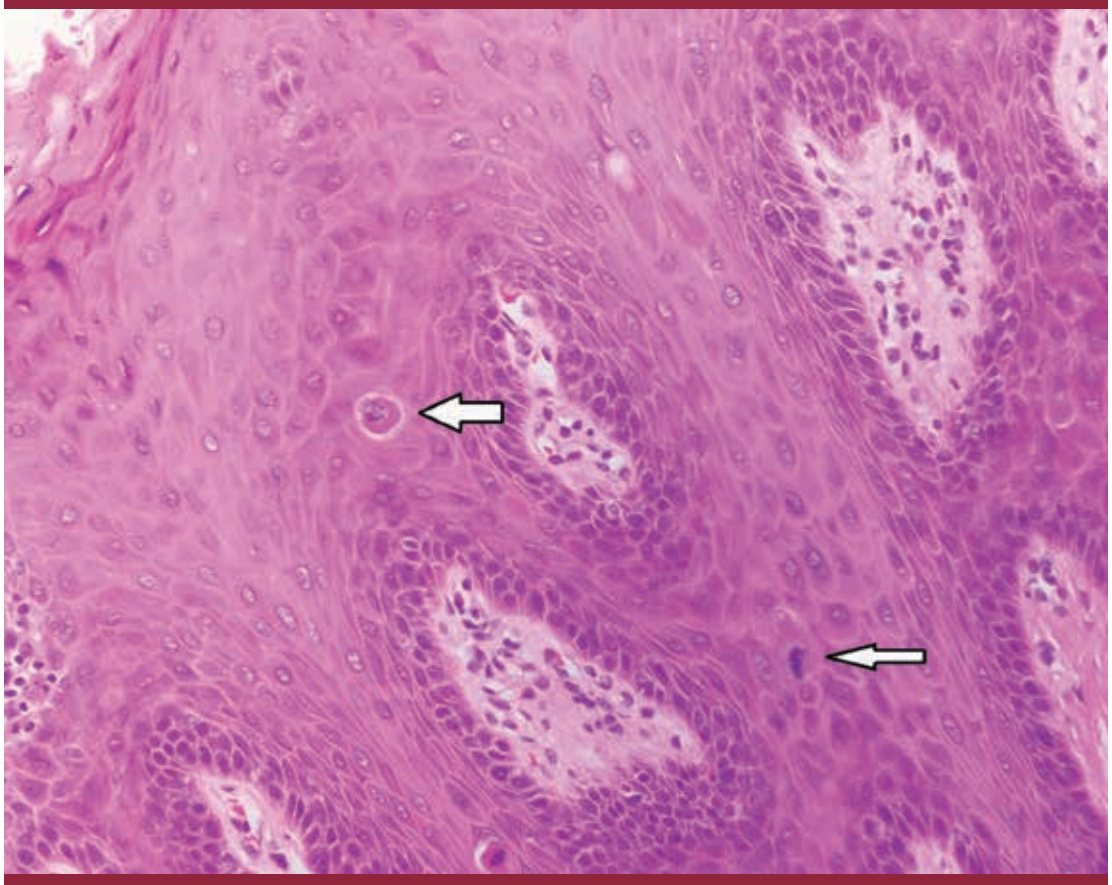


Figure 5. *Arrows show mitosoid bodies in the spinous cell layer.*

An American

An American Adventure.

That's what Dr John Purdy's father, John M. Purdy Sr, told him they were having when they set sail for the United States in October 1955. They left Malta and crossed the clear blue Mediterranean and the Atlantic Ocean "in search of our future in America," Dr Purdy recalls his father saying.

Together with his father, mother Grace, and younger brothers Geoffrey and David, 8-year-old Dr Purdy, born in England, stood on the deck of the ocean liner to see the Statue of Liberty as they pulled into New York Harbor on a foggy fall morning.

From New York City, the Purdy family boarded a coach train bound for Los Angeles, California, and his American life began. The move from the Mediterranean to California was difficult, he says. They left behind all his mother's family—grandparents, aunts, uncles, and cousins; however, Dr Purdy's parents believed strongly in education and a professional future for their children.

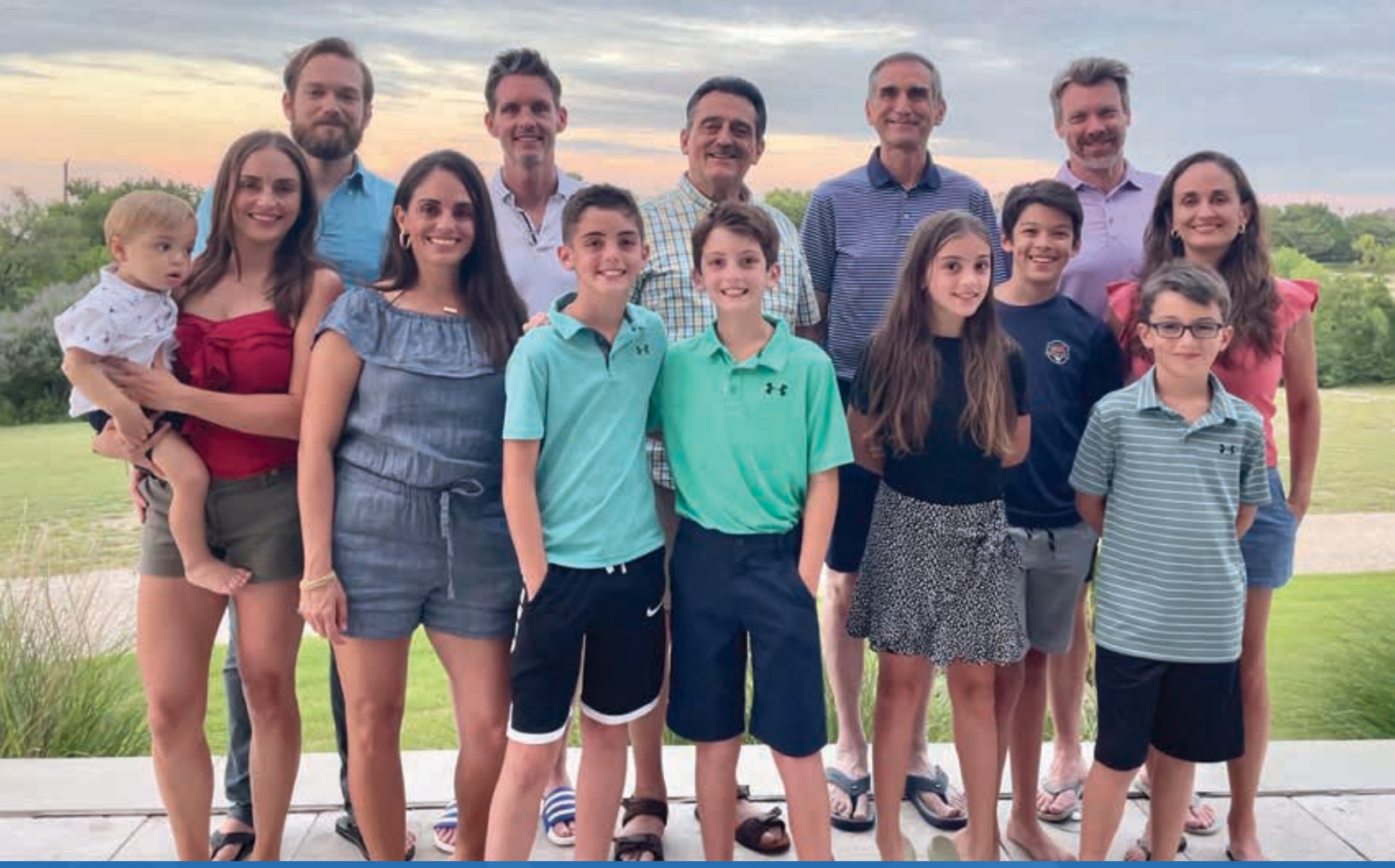
He grew up in the Hollywood Hills; his father was a Certified Public Accountant, and his mother was a homemaker. "She loved us unconditionally and always encouraged us to do well in school," Dr Purdy says. "God blessed my brothers and me with amazingly kind and loving parents!"

After graduating from Loyola High School in 1965, Dr Purdy entered Loyola University of Los Angeles (now Loyola Marymount University). He was interested in medicine, dentistry, and teaching, and was eventually accepted at the University of Southern California School of Dentistry, graduating in 1974.

Adventure

The 2021 Gold Medal for Distinguished Service — Dr John Purdy

Dr John M. Purdy, *2021 recipient of the Gold Medal Award, presented by 2020 TDA President* ***Dr Jacqueline Plemons.***



Dr Purdy is pictured with his family: grandson Ezra, daughter Marcelle and her husband Derek, daughter Marisa and her husband Kirk, grandson Alex, Dr Purdy, grandson Evan, brother David, grandchildren Raquel and Pablo, son-in-law Paul, grandson Tomas, and daughter Monica.

Dr Purdy credits his childhood family dentist, Dr Greene, for piquing his interest in the profession. "He was patient and kind and more importantly never hurt me," says Dr Purdy. "I trusted him and liked going to his office. I believe this early positive experience guided me toward dentistry."

He met his former wife Elia at Loyola University and married during Christmas break of his third year at USC. In January 1977, they moved halfway across the country to El Paso, Texas. Her family is from Chihuahua City, Chihuahua, Mexico, and El Paso is the closest US city. For 44 years, he has treated the citizens of the Sun City.

He became a member of the American Dental Association while in dental school. "As future dentists we were advised to become members of our professional organization and to participate," he says. "Upon arriving in El Paso and joining our district dental society (El Paso District Dental Society), it wasn't long before I was asked to coordinate the distribution of Head Start children among the participating dental practices and to join our local Board of Directors."

Dr Purdy has been involved in organized dentistry ever since, crediting his mentors Drs John Wilbanks (the first TDA Gold Medal for Distinguished Service recipient), Rene Rosas, Roger Ortiz, and John Eads for their guidance. "Then there are those of my generation: Drs David Wilbanks, Rick Black, Steve Caldwell, and Steve

Spivack. We have worked together for years."

Dr Purdy received TDA's highest honor at the House of Delegates in May 2021. He was named the 25th recipient of the Gold Medal for Distinguished Service, an award for which he is deeply humbled and surprised!

"It was unbelievable… truly unbelievable! I was, and still am today, deeply humbled. When it sank in that my name, out of so many other well-deserving professionals, was announced as the recipient of the 2021 Gold Medal for Distinguished Service Award, I was stunned.

"Being the first non-TDA president to receive the Gold Medal, I am overwhelmed with a sense of gratefulness and sincere appreciation for this recognition. I say this because I've seen how hard our presidents work and how much they give of themselves. From the newest of alternate delegates to the president at the top of our TDA leadership pyramid, we all love our profession and our patients, and we offer our time to work in organized dentistry for the betterment of both."

When he's not practicing dentistry, Dr Purdy enjoys being involved with his church, traveling, and with the recent passing mother and middle brother, spending as much time as possible with his family; including his brother David, his 3 daughters, Monica Louise Purdy Holmes and Marisa Lizette Purdy Stockwood of Dallas, Marcelle Lorraine Purdy Babb of Austin, and his grandchildren, Pablo, Raquel, Alex, Evan, Tomas, and Ezra.

"I will always be grateful to their mother Elia for the children we share," he says. "My sons-in-law (Paul Holmes, Kirk Stockwood, and Derek Babb) really are like sons to me."

He sings in his church choir and feels that it is good way for him to thank God for all His blessings and gifts. "My family has a love of music and singing, so it's become somewhat of a tradition for us to spend hours singing karaoke when we are all together. We'll play all kinds of games with the whole family, and we thoroughly enjoy our time together. It's the best!"

Family is paramount to Dr Purdy, and he treats his patients as such. He strives to be of service wherever he is and tries to live his life in a way to please God and make his family proud.

"I have always tried to treat patients like family by following variations on The Golden Rule. Treat people the way you would like to be treated, because people don't really care how much you know until they know how much you care."

About the Honor

The Gold Medal for Distinguished Service is the highest honor one can achieve in the Texas Dental Association. Nominations are submitted to the Awards Committee by the Board of Directors, component society presidents, and component executive staff.

Only one person per year may receive the award, and that is only if the Awards Committee believes one of the nominees successfully meets the criteria. The criteria involves service in TDA leadership positions, ADA service, local society contributions that affected state concerns, commitment to organized dentistry through other organizations including teaching, and service to the community.

About the Gold Medal Presentation

Owing to its stature, the TDA president presents the award before the House of Delegates. The name of the recipient is not revealed to anyone, including the recipient, until the actual presentation takes place. The Awards Committee works behind the scenes with the recipient's family members to make sure they are in attendance without alerting the recipient.

In 2006 the TDA commissioned a nationally-renowned Texas artist, Ronadró, to design a unique award piece to represent the Association. The result is a beautiful, bronze relief depicting a dentist caring for a patient. This sculpture was adopted for the Gold Medal award in 2008. Inset into the shadowbox are 2 custom designed medallions: the TDA seal and the gold medal.

About the Past Recipients

To date, there have been 24 previous recipients of the Gold Medal: Drs John D. Wilbanks, Michael D. Vaclav, O.V. Cartwright, H.M. "Mit" Sorrels, Jack H. Harris, James E. Bauerle, Robert V. Walker, Frank K. Eggleston, Robert M. Anderton, Rene M. Rosas, Richard M. Smith, Sam W. Rogers Jr, Stephen F. Schwartz, John S. Findley, S. Jerry Long, Patricia L. Blanton, Paul E. Stubbs, Richard C. Black, Michael L. Stuart, Hilton Israelson, Thomas Harrison, J. Preston Coleman, Larry W. Spradley, and Rita M. Cammarata. By the judgment of their colleagues, they represent the best of the TDA; dentists who have dedicated their lives to the Association and profession, and have advanced both through their commitment, strength, and vision.

TEXAS DENTAL ASSOCIATION NOTICE OF GRANT AVAILABILITY 501(C)(3) NON-PROFIT DENTAL ORGANIZATIONS

The Texas Dental Association (TDA) announces availability of financial assistance for qualifying 501(c)(3) non-profit organizations affiliated with dentistry. The monies are derived from TDA Relief Fund interest income earned over the 2021 fiscal year. Grantees will be determined by the TDA Board of Directors.

Eligibility: Grantees must be 501(c)(3) non-profit organizations affiliated with dentistry.

Application: Letters of interest detailing the proposed project(s) and including a budget should be mailed to:

TDA Board of Directors
C/O Mr Terry Cornwell
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Austin, TX 78704

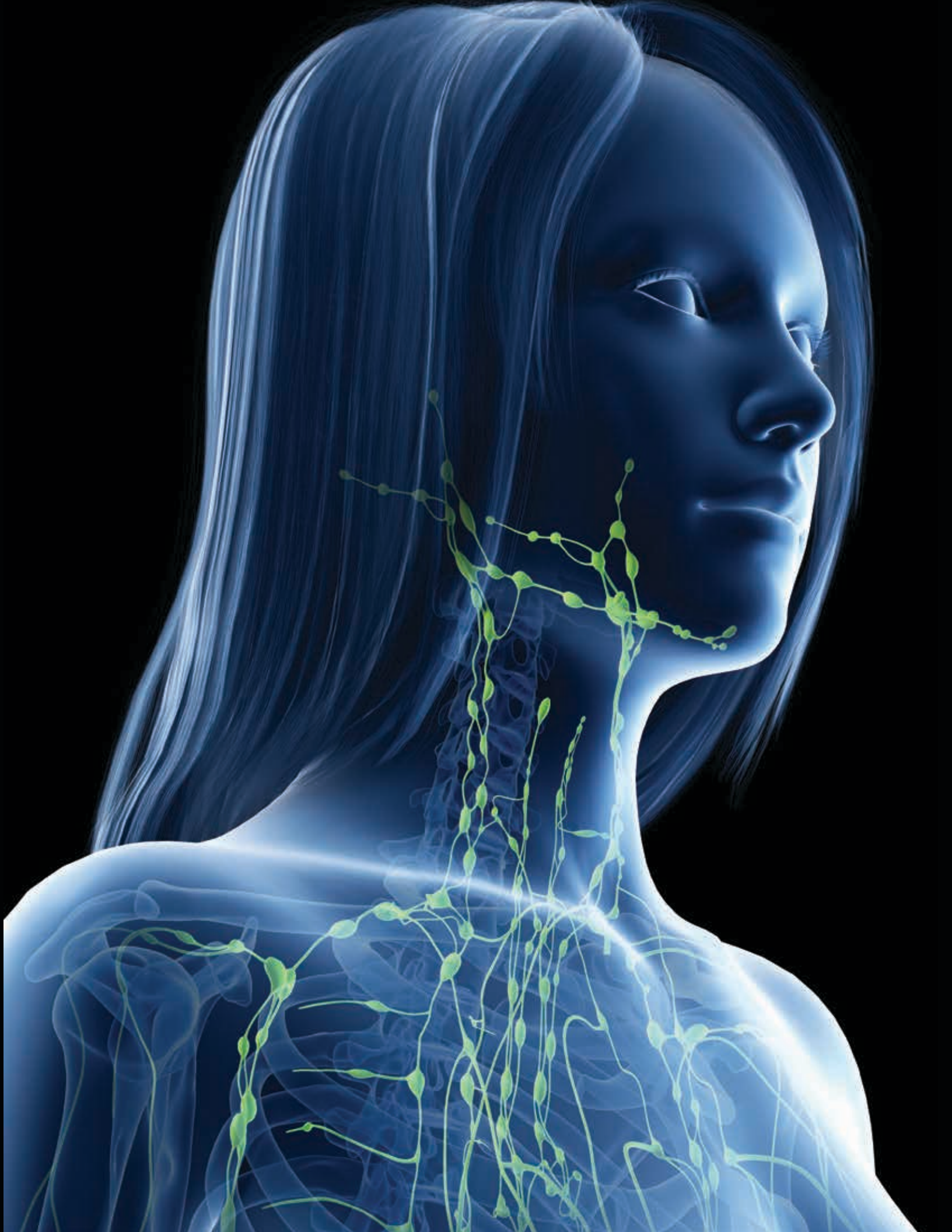
Deadline: Letters of Interest must be postmarked or emailed (tcornwell@tda.org) no later than January 31, 2022.

Approval: All letters of Interest will be reviewed and considered by the TDA Board of Directors no later than its March 2022 meeting.

Notification: All recipients will be notified in writing on or before May 15, 2022.

Previous Recipients: In 2021, grants totaling $7,842.44 were awarded to the following organizations in Texas for charitable patient care: Capital Area Dental Foundation (Austin), The Family Place (Dallas), Network of Community Ministries (Richardson), and San Jose Clinic (Houston).

For more information, please contact Mr. Terry Cornwell, TDA Governance Manager, 512-443-3675, Ext. 146, or email tcornwell@tda.org.



Atypical Oral Manifestion of Symptomatic Infectious Mononucleosis *with Erythema Multiforme Lesions*

Tori Maywalt, DMD
Lianna Pulliam, BS
Coralie Ciceron, DDS
Dan Burch, DDS

Texas A&M College of Dentistry, Department of Pediatric Dentistry, Dallas, Texas

ABSTRACT

Infectious Mononucleosis (IM) is commonly caused by Epstein-Barr Virus (EBV) or Cytomegalovirus (CMV). Both virus groups are part of the Herpesviridae family with EBV causing most IM infections. Children with EBV infections are usually asymptomatic but when clinical signs manifest, they are often indistinguishable from other viral infections. EBV infections associated with erythema multiforme (EM) cases are rare in clinical report. This case study highlights the clinical course and management of a 14-year-old child presenting to the Emergency Department at Children's Medical Center with atypical oral lesions and acute gingival pain.

KEYWORDS

Infectious mononucleosis, EBV, erythema multiforme minor, pediatric, oral lesions, virus

CASE REPORT

A 14-year-old Black/African American female presented to Children's Medical Center (CMC) Emergency Department (ED) complaining of increased lip swelling, bleeding lips, trismus, and gingival pain that had been present for the last 6 days. Two days after initial onset, the patient was seen by her primary care physician who diagnosed her with strep throat, for which she was given a prescription for Amoxicillin. Two days after her primary care visit, the patient presented to a different area ED due to worsening symptoms; during this ED visit, she was discharged home with prescriptions for Prednisone and Augmentin.

On initial evaluation at CMC-ED, she was lethargic with normal vital signs and no lymphadenopathy. The patient and her mother noted no significant medical or dental history other than occasional, isolated canker sores. Her lips were swollen with yellow, hemorrhagic crusting extending onto the mucosa of the oral vestibule to the mucogingival line. Lesions were absent on other oral cavity surfaces. There were no apparent genital, ocular, or skin lesions upon inspection.

The patient was admitted due to dehydration for 2 days. Intravenous fluids were administered along with acetaminophen, ibuprofen, Vaseline, and triamcinolone dental paste. Blood labs including complete blood counts and comprehensive metabolic panel were obtained on admission. Pertinent laboratory results were within the normal range except for elevated neutrophil (79.2%), decreased lymphocyte (17.4%) and absolute lymphocyte (0.92 thousand/mm3) values.

The leading differential diagnoses were Herpes Simplex Virus mucositis with erythema multiforme versus mycoplasma-

induced rash with mucositis. The patient and her mother both denied the use of nonsteroidal anti-inflammatory drugs (NSAIDs) in the week prior to the episode, so mucosal fixed drug eruption was unlikely in absence of a provoking medication. EBV, HSV, and mycoplasma serologies were obtained on admission along with HSV PCR. Mycoplasma IgG was elevated but IgM was within normal range.

DIFFERENTIAL DIAGNOSIS

Epstein-Barr Virus (EBV)[1,2]
Clinical Presentation: *Fever, pharyngitis, lymphadenopathy triad, soft palate petechiae, and atypical lymphomonocytosis*
Testing: *Positive EBV Specific Antigen test (VCA-IgM, VCA-IgG, EA, EBV EBNA)*
Risk Factors: *Between the ages of 10-30 years old and kissing*

Primary Herpetic Gingivostomatitis[3,4]
Clinical Presentation: *Extra oral presentation of small-erupted vesicular clusters, burning mouth, erythema, hemorrhagic inflammation, and dehydration*
Testing: *Viral HSV-1 culture necessary to confirm diagnosis.*
Risk Factors: *Usually under 6 years old; Rare in adults.*

Erythema Multiforme (EM) minor[5]
Clinical Presentation: *Prodromal symptoms, evolving cutaneous lesions of asymmetric distribution, and often affects the mucous membrane (25-60%). Typically affects a small/limited area*
Testing: *No available diagnostic test; laboratory abnormalities may present with increased liver enzyme levels, white blood cell counts, and erythrocyte sedimentation rate.*
Risk Factors: *Medication usage, autoimmune disease radiation, immunization, and infection*

Stevens-Johnson Syndrome[6]
Clinical Presentation: *Vesicular rash on face, neck, and trunk with Nikolsky's sign, periorbital inflammation, and conjunctivitis. Characterized by drug induced allergic reaction involving the eyes, skin, oral tract, gastrointestinal tract, and genitals. Prolonged clinical presentation more than 7-10 days.*
Prodromal signs: *fever, malaise, and painful ulcers that progress to larger, more widespread skin lesions.*
Testing: *Clinical evaluation and skin biopsy*
Risk Factors: *Viral or bacterial infections in children, weakened immune systems, and family history of syndrome*

Streptococcus A[7]
Clinical Presentation: *Acute fever and pharyngeal ulceration. Can be clinically indistinguishable from EBV.*
Testing: *Rapid (GAS) antigen throat culture. Presents 3-30% of the time with infectious mononucleosis.*
Risk Factors: *Close contact with infected person*

In addition to supportive care, the patient was empirically treated with systemic intravenous acyclovir given a high clinical suspicion for HSV infection. After 2 days of supportive care, she was discharged from CMC inpatient unit with a prescription for a 5-day course of oral acyclovir and topical triamcinolone 0.1% paste for oral and perioral lesions.

At 1-week follow-up with CMC Dermatology, the results of an Epstein Barr Virus serum antibody panel ordered were significant for the following: Epstein-Barr virus antibody to early D antigen (EA-D), IgG (35.2 U/mL); Epstein-Barr virus antibody to viral capsid antigen, IgG (169.0 U/mL); Epstein-Barr virus antibody to nuclear antigen, IgG (80.8 U/mL). Additionally, the results from previous HSV PCR and mycoplasma serology returned negative. Serologic examination did suggest past infection with EBV. Based on signs, symptoms, and antibody panel results, the patient received a final diagnosis of infectious mononucleosis (glandular fever). The patient received a 5-day course of oral azithromycin due to high suspicions of superimposed bacterial infection and daily triamcinolone dental paste.

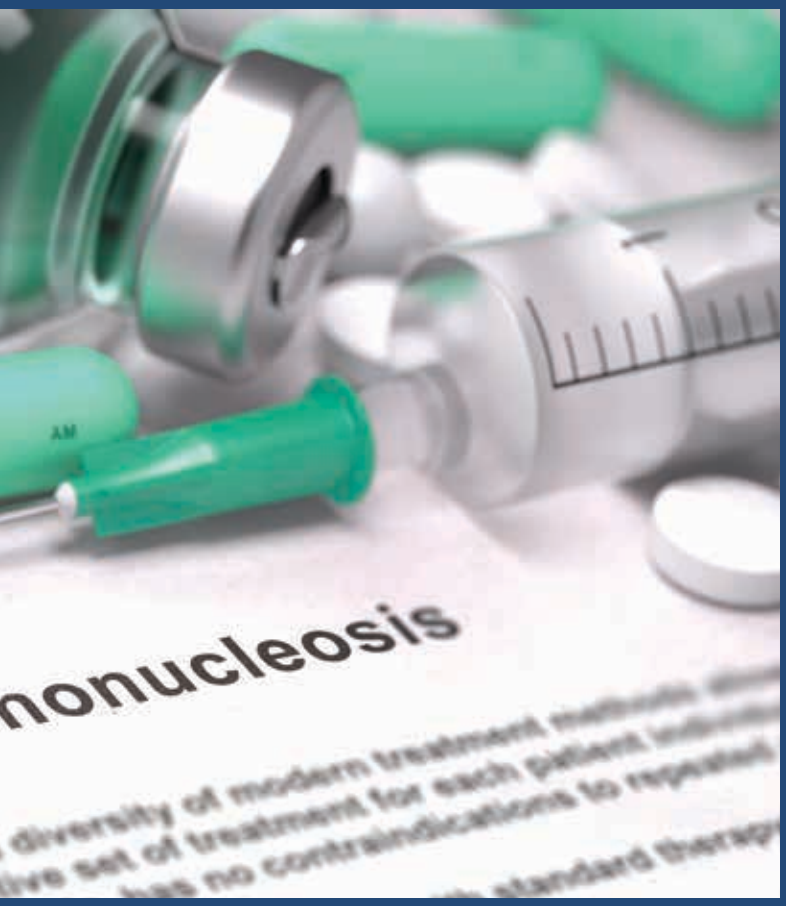
Approximately 6 weeks after initial presentation to the ED, the patient noticed reoccurrence of lesions on her lips and left buccal cheek causing her to seek evaluation by CMC Dermatology. The patient and mother reported fair adherence to the prescribed regimen. The patient completed the course of azithromycin but never used the triamcinolone dental paste. Two punch biopsies of the upper right lip were performed during clinical visit. The patient was given a 7-day tapered dose of prednisone prior to leveling. Lesions spontaneously resolved after the completion of prednisone regime.

The pathology findings were as follows: 1) Lichenoid infiltrate of lymphocytes in the lamina propria with epithelial

detachment and dyskeratosis. Lymphocytes are a mixed population of CD3 and CD20 positive cells. 2) Direct immunofluorescence reveals no *in situ* deposits of IgG, IgA, IgM, C3, or fibrin. Pathology report supports lichenoid mucositis and inflammation in response to EBV.

DISCUSSION

Epstein-Barr Virus (EBV) is common and widespread across most human populations. EBV spreads primarily through close contact by sharing food and drinks during infancy and early childhood. During these early years, children with primary EBV infection are mostly asymptomatic.[8] The global increase in hygiene standards have led to a decrease in primary infection in infancy and young children. Moreover, there is still a significant incidence of primary infection among teenagers and college students, which can lead to infectious mononucleosis. Patients with IM present with fatigue, fever, lymphadenopathy, and sore throat. Clinical symptoms usually take between 1 to 6 weeks to resolve.[8] A 2003 to 2010 National Health and Nutrition Examination Survey (NHANES) study showed EBV antibody prevalence was considerably higher in African American and Mexican American populations versus non-Hispanic Whites.[9] The greatest disparity was among children between the ages of 6 to 8 years old. As children aged into their teenage years, the antibody disparity decreases.[9] Consequential complications during the acute phase of primary EBV infections are rare. Complications occur in about 1% of patients and usually include the following: airway obstruction, streptococcal pharyngitis, meningoencephalitis, hemolytic anemia, thrombocytopenia, and splenic rupture.[10] Splenic rupture is the most serious complication associated with EBV infections but occurs in less than 1% of patients. This often keeps athletes from participating in sports for short time periods, roughly three weeks or until all symptoms have dissipated.[10]



Erythema Multiforme (EM) is a rare immune-mediated condition that presents as mucocutaneous lesions triggered by various antigenic stimuli. EM routinely appears as distinct targetoid lesions of various colors across peripheral aspects of the body that present and heal within 7-21 days of onset. EM occurs in less than 1% of the population with a

predilection for young female adults and are associated with various infections, autoimmune diseases, radiation exposure, and malignancies.[11] Infections with herpes simplex virus (HSV) are the most common cause, most commonly HSV-1. EM presents in two forms, major and minor. The naming of the EM form is based on mucosal disease. Mild to moderate mucosal involvement is termed erythema multiforme minor; the presentation is typically mild to moderate with limited distribution. Although EM is self-limiting, cases of reoccurring episodes have manifested.[11]

Although HSV is the most common cause of EM, EBV has been reported in rare instances. Many cases confirm EBV infection through serologic and not pathologic analysis. Our case presents a child that did not take any prior medications yet presents with prodromal symptoms. Serological screening confirmed EBV but excluded HSV and mycoplasma through negative serological testing. This was further reinforced by a completed microscopic pathology report stating lichenoid infiltrate of lymphocytes in the lamina propria with epithelial detachment and dyskeratosis. Gingival pain and periodontitis have been previously correlated with oropharyngeal EBV infections; explaining the initial onset of gingival pain experienced.[12] Therefore, EBV is presumed to be the primary causative agent for erythema multiforme in this case.

Currently, there are no approved treatment options for IM. Developing an EBV vaccine is a greatly sought-after endeavor of many viral researchers but advancement has not progressed as desired. Several clinical studies have been initiated but no formal reports of success have been published.[10] Valacyclovir has been used in a small group of college students and caused a noted decrease in viral load. This study also noted a decrease in symptoms and severity of illness in comparison to the control group. Corticosteroids are another class of medications that is commonly used to treat inflammatory complications. The use of corticosteroids in treating IM is contentious amongst the medical community.[10]

CONCLUSION

Infectious mononucleosis in most instances are asymptomatic infections for children that often go unnoticed. Rare cases that present as symptomatic can be debilitating for children, reducing their willingness to eat and increasing their risk of dehydration. Infectious mononucleosis can clinically manifest as various viral infections of the oral cavity making it important for dental practitioners to be aware all signs and symptoms associated with numerous differential diagnoses to most successfully treat patients. It is also important for dental practitioners to consult medical providers when diagnosing and treating oral lesions/pathology. The presented case shows the importance of interprofessional teams. Medical consultation with pediatric dermatology and patient laboratory results gave the dental team a more robust understanding in definitively identifying our patient's underlying issue.

Acknowledgements

We gratefully acknowledge our patient and her parent for consenting to be a participant in this case report. We would also like to acknowledge financial support from HRSA award notice 2-D88HP28504-0600.

Conflicts of Interest

None

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Multifocal epithelial hyperplasia (Heck disease)

Discussion

Heck disease, also known as multifocal epithelial hyperplasia, is an asymptomatic, squamous epithelial proliferation, caused by human papillomavirus (HPV) types 13 and 32.[1,2] This disease was first reported in 1965 as Heck's disease, among young Native Americans and Alaskan Eskimos, and subsequently reported in Mexican Indians, and indigenous peoples from Central and South America.[1-6] Familial and regional clustering has been reported, suggesting a strong genetic component in disease transmission.[1,2,3] This was confirmed in a study by Garcia-Corona et al. where they discovered an association with the HLA-DR4 allele.[4] It most commonly affects children and young adults, with a strong predilection for females.[1-6, 9] In our case, the patient was an adult, however he reported that his lesions had been present since adolescence. Multifocal epithelial hyperplasia presents as multiple, asymptomatic nodular or papular, exophytic lesions on the oral mucosa, gingiva, tongue and lip. The lower lip is by far the most commonly affected site, and lesions are of two types: papulonodular, which are smooth surfaced, and papillomatous having a pebbly to papillary surface.[1,6-8] The lesions are usually pink, like the adjacent mucosa, but may become erythematous or ulcerated when they are traumatized or irritated. The lesions are often 0.1 to 1 cm in diameter, and when multiple, may coalesce.[4-8] In some cases, the lesions may spontaneously regress, or may persist into adulthood.[1-4,7-9]

A higher prevalence of Heck disease has been reported in low-income populations living in overcrowded conditions.[1-4,6,8] Sharing food, utensils and toothbrushes has also been associated with familial transmission of Heck disease, since HPV type 13 may be transmitted via saliva.[2,7,9] Malnutrition and poor oral hygiene have also been associated with this condition.[4-8]

The diagnosis of multifocal epithelial hyperplasia is confirmed by tissue biopsy and histopathological examination of the excised tissue, with correlation of the clinical presentation. Histopathologic examination of Heck disease reveals considerable acanthosis of the surface epithelium, and the presence of koilocytes and mitosoid bodies in the spinous cell layer.[1,2,6-8] The rete ridges are also widened, club-shaped, and are at the same depth as adjacent normal rete ridges.[1,4-6]

The definitive diagnosis for our case was multifocal epithelial hyperplasia (Heck disease). The diagnosis is consistent with the

clinical presentation and histopathologic findings. Although it may seem odd given the patient's age, he did report that the lesions initially appeared during adolescence.

Given the clinical presentation, a differential diagnosis of condyloma acuminatum and verruciform xanthoma were considered. Condyloma acuminatum is a common sexually transmitted disease (STD) caused by HPV 6 and 113-6. Teenagers and young adults are typically affected. Patients present with sessile, pink, well-demarcated, nontender, exophytic masses with short, blunted surface projections.[1,3,5] Verruciform xanthoma is primarily an oral disease but may also present with skin and genital lesions.[1] The clinical appearance is similar to condyloma acuminatum, but the cause is possibly reactive with no proven association to HPV.[1,6,7]

Treatment for Heck disease includes removal of the lesions through conservative surgical excision, cryotherapy, carbon dioxide laser, or electrocoagulation.[1-3] A few cases have been treated with topical interferon-beta, systemic interferon-alfa, or topical imiquimod.[1-3] Radiation is not a popular method of treatment because it can cause anaplasia of the cells and increase the risk for malignant transformation of the lesions.[2] Spontaneous regression may occur months or years after initial presentation. Recurrence is low but possible. The prognosis is excellent.[1,2,6,8]

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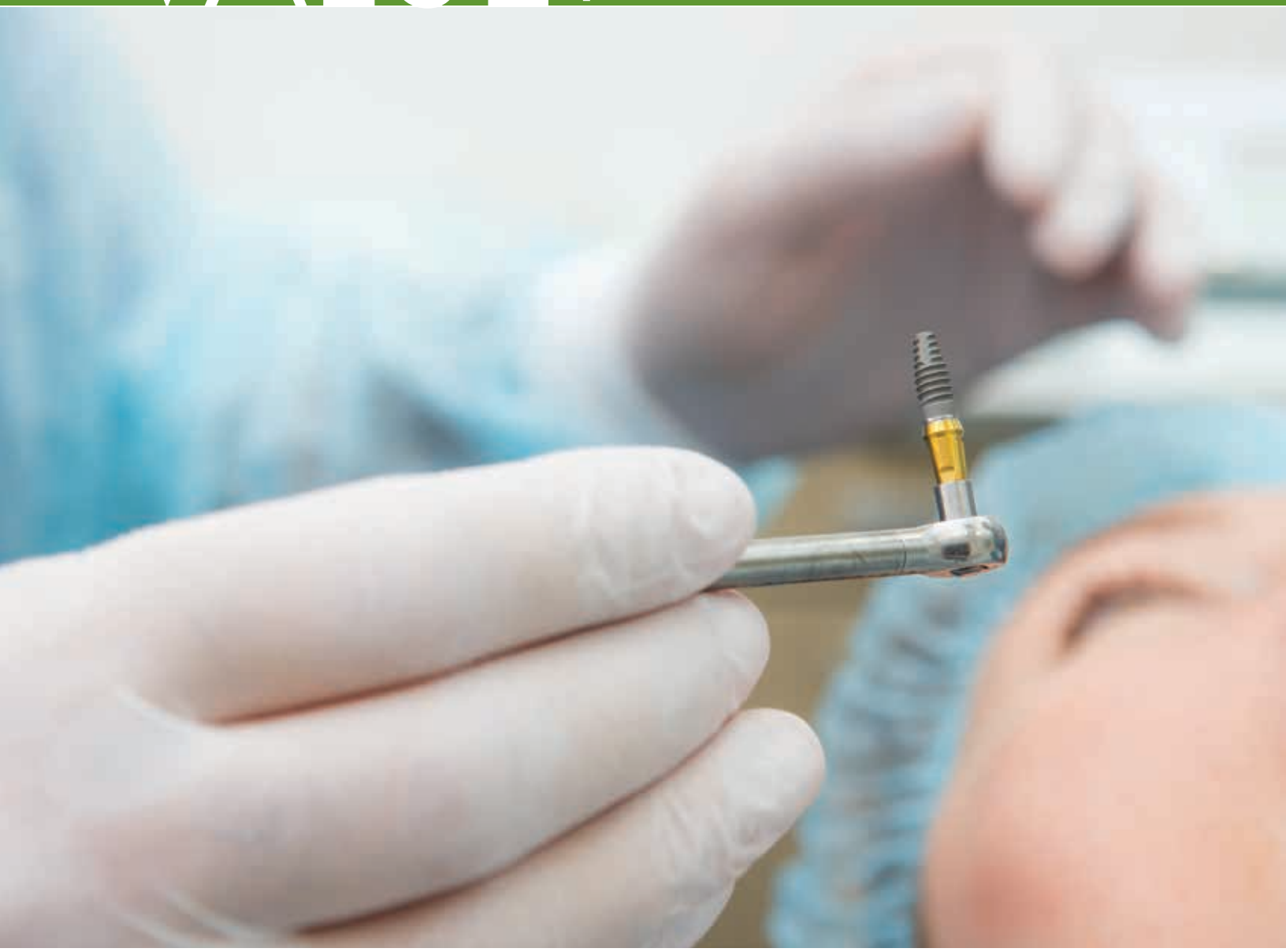

DENTIST MISJUDGES BONE HEIGHT DURING IMPLANT PLACEMENT, RESULTING IN DAMAGE TO THE INFERIOR ALVEOLAR NERVE;

MALPRACTICE LAWSUIT FOLLOWS

By Mario Catalano, DDS, MAGD, for MedPro Group

INTRODUCTION

Every new dentist faces the same dilemma: there is no replacement for experience. As new dentists settle into practice, hopefully they understand their own limitations, as well as the limitations of the techniques and equipment they use in practice. Adopting a conservative approach, especially in one's early days of practice, may be beneficial.

However, the practice of dentistry is dynamic. The seasoned as well as the new practitioner should not just settle into a certain way of doing things, while ignoring the inevitable changes in the standard of care. As new knowledge and techniques become available, the dentist must consider whether and when it is appropriate to incorporate them into one's practice. However, that balance between currency and credibility is not always easy to maintain.

CASE DISCUSSION

Dr C maintained a general dental practice that focused heavily on dental implants (both placement and restoration) and the use of lasers to treat various oral conditions. Dr C had recently hired Dr K, a recent dental school graduate, as an associate. Because of the practice's emphasis, Dr K was sent to several weekend courses on these techniques and Dr C mentored him as he began practice.

A 51-year-old woman presented to the practice as a new patient, wishing to explore her options regarding her missing tooth number 19. The case was assigned to Dr K, who began by taking a set of full mouth X-rays and conducting a thorough oral examination. Dr K's reading of the X-rays indicated there was 9 mm of bone superior to the inferior alveolar canal (IAC). Choosing to be cautious, Dr K suggested to the patient the options of either an 8 mm implant or a traditional 3-unit bridge. Following a thorough discussion of the recognized risks and expected benefits of each option, the patient opted for the implant. Because this was a single, apparently uncomplicated implant case, Dr C decided Dr K should handle it.

On the day of surgery, the patient signed an appropriate informed consent form that reiterated the risks and benefits previously discussed, including the possibility of inferior alveolar nerve (IAN) paresthesia. Dr K also assured the patient that the 1 mm margin allowed for between the implant depth and the IAN canal should

provide a "safety zone" to account for any discrepancies between the X-ray and the actual bony structure.

After the induction of local anesthesia, Dr K began the series of sequential osteotomies for implant placement. During this process, Dr K suddenly felt a decrease in resistance to the drilling, which he attributed to poor bone quality. He proceeded with the preparation and completed the implant placement.

He then reviewed the case with Dr C, including the lack of resistance he thought he felt. Dr C suggested a postsurgical X-ray, which indicated that the implant had invaded the IAN canal. This finding explained the lack of resistance.

The patient was informed of what had transpired, and the implant was immediately removed and bone graft material was placed at the osteotomy site. Dr K explained that the IAN would likely be numb for a period of time. He also recommended to commence treatment of the nerve with low level laser therapy (LLLT) to stimulate healing and restore function (LLLT is not Food and Drug Administration [FDA]-approved for this application). The patient consented, and LLLT treatment was commenced that day.

Dr K followed the patient closely over the next 18 months, providing approximately 30 LLLT treatments and documenting his subjective assessment of slight improvement after each treatment. However, Dr K never conducted any nerve mapping or other objective measurement of nerve function.

Eventually, the patient became dissatisfied with her progress and sought a second opinion from an oral and maxillofacial surgeon (OMS). The surgeon indicated that the therapeutic window had passed and little could be done to improve her current condition. She also noted that X-rays showed bone fragments close to the IAN.

The patient sued both dentists charging that they had prepared for the original procedure improperly (by failing to take a cone-beam computed tomography [CBCT]), performed the procedure improperly (by using an implant too long), and failed to appropriately refer her to an OMS or neurologist in a timely manner, thereby preventing her benefiting from prompt remedial treatment.

Several potential defense experts reviewed the case for the doctors' insurance carrier; however, none of them could support the care. Additionally, the expert reviews of this case questioned the appropriateness of the immediate bone grafting after the implant was removed. The case against both doctors was settled by a payment to the patient.

Cone-beam computed tomography

RISK MANAGEMENT CONSIDERATIONS

Theodore Passineau, JD, HRM, RPLU, CPHRM, FASHRM

This case provides an opportunity to discuss the dynamic nature of the practice of dentistry from two perspectives: the evolution of currently performed procedures and the introduction of new therapeutic modalities.

The limitations of radiographs have long been recognized. As CBCT has become more available and less expensive, its use as part of the implant placement process has become more widely accepted, especially when placement will be near the IAN or maxillary sinus. When the use of CBCT becomes the standard of care is difficult to say, but the dentist needs to consider it in all appropriate cases.

The use of any unapproved therapy also requires careful consideration. While the off-label use of medications or the use of not-yet-FDA-approved implants is (in some cases) within the standard of care in medicine, when it is done, the patient must be very thoroughly counseled and informed that the therapy is not approved by FDA. This advisement is accomplished through the informed consent process.

Whatever treatment is rendered, the dentist (however long he or she has been practicing) must be fully competent to perform the procedure and manage any reasonably anticipated complications. A savvy dentist knows and accepts her or

his limitations. If the case starts to "go off the rail," an early referral to someone with appropriate expertise is likely to inure to the patient's benefit, and hopefully will minimize the referring dentist's potential professional liability exposure. Along the way, all dentists participating in a patient's care should take occasional "timeouts" to assess whether the case is progressing as it should.

Informed consent to treatment was not an issue in this case; however, it is important to understand what informed consent is and isn't. Informed consent is when the patient is educated about the recognized risks, expected benefits, and reasonable alternatives to the proposed treatment so that he or she can make an informed decision about whether to proceed with treatment. In consenting, patients are assuming the risks that have been explained to them; however, they are never consenting to care below the standard of care.

SUMMARY SUGGESTIONS

The following suggestions may be useful when providing higher risk or unconventional dental treatment:

- Clinical competency is a must. If the dentist is not completely familiar with the condition, its treatment, and the possible complications, he or she should promptly refer the case to a provider with more specific expertise to address treatment needs or complications.
- Clinical competency is not a static state. Dentists must devote sufficient time and attention to completing continuing dental education (CDE) and other information that will keep them current with the state of practice.
- If an experimental or unapproved treatment is proposed, the dentist must clearly explain the experimental or unproven nature of the procedure to the patient as part of the informed consent process.

CONCLUSION

Because of ongoing research and development, the accuracy, efficiency, and efficacy of dentistry has never been at a higher level. However, it remains an inexact science. New potential or actual risks may emerge with every new product or technique. So, dentists should continually increase their knowledge, skill, and attention to detail in response to new developments.

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the local community. The beautiful facility features high-end finishes/décor, 3 fully equipped operatories, digital radiography, and a CBCT. **HOUSTON, PERIODONTAL (ID #H476):** Located in a growing suburb south of downtown Houston, this productive Perio practice was started over 20 years ago by the current owner, who has developed many strong referral relationships in the local community. There are 5 fully equipped operatories, digital radiography, computers throughout, and a 3D cone beam CT in the well-appointed 2,400 sq ft modern space. The owner is open to a phased transition in which they provide support to the incoming buyer to ensure they are set up for long term success. **HOUSTON, ORTHODONTICS (ID #H478):** This recently built, 2,000+ square foot office, is located in the upscale Memorial area of Houston, near the intersection of I-10 and Voss Road. There are 3 fully equipped operatories with a large breakroom that is setup to facilitate CE courses. The breakroom can also be used to add an additional operatory. This is a great turn-key opportunity for a start-up or relocation. The seller is disabled and motivated to sell. **HOUSTON, ORTHODONTICS (ID #H480):** This productive orthodontic practice occupies an attractive free-standing building situated on a high traffic street in a desirable community in the heart of east Texas. The practice has a loyal fee-for-service patient base and has realized annual revenue of seven figures with exceptional profitability over the past few years. The office features a 4-chair ortho bay, 2 exam rooms, and digital pan/ceph unit. The real estate is also available for purchase. **HOUSTON (ID #H481):** This established, general dentistry practice is located in a highly desirable area in west Houston. The practice serves a large FFS/PPO patient base with over 2,000 active patients. The office features 4 operatories equipped with computers, digital X-Ray units, a digital Pano, and room for expansion by way of equipping the 5th operatory. The real estate is also

available for purchase.

HOUSTON (ID #H482): This general family practice is located in a suburb of Houston in a spacious facility that boasts 10 operatories, CBCT, and digital radiography. The practice serves a FFS/PPO patient base and has historically realized revenue of mid-6 figures.

HOUSTON (ID #H483): This 100% FFS, general dentistry practice has been in operation for over 35 years and is situated in a 2,200 sq ft, free standing building with 5 fully equipped operatories. Hygiene production is very healthy and the practice has seen 1,700+ active patients in the last 24 months with a steady new patient flow, primarily through word of mouth referrals. The real estate is also available to purchase. **HOUSTON (ID #H484):** This attractive practice is located in a high visibility retail center at a bustling intersection in northwest Houston. The 1,750 square foot leased space has a total of 5 plumbed operatories, 3 are fully equipped with a dental chair and cabinetry in the 4th, and digital radiography and computers throughout. This is a great alternative to starting a practice from scratch. **HOUSTON (ID #H486):** Located in a growing east Texas community, this established, general practice caters to a dedicated multi-generational active patient base. The well-appointed 2,500 sq ft space contains 5 fully equipped operatories,

digital pano, plumbed nitrous, and computers throughout. **HOUSTON (ID #H488):** This FFS/PPO practice and real estate in located a growing suburb 45 minutes NE of Houston. With 1,800 total patients, a steady flow of new patients, solid hygiene recall, and consistent revenue of high-6 figures per year, this practice is destined for future success. The office contains 6 fully equipped operatories, plumbed nitrous, digital X-rays, CBCT, and computers throughout. **SAN ANTONIO (ID #T432):** This established, general dentistry practice and building is located in a growing suburb along the I-35 corridor north of San Antonio. The practice serves a large PPO/FFS patient base and has a tremendous amount of untapped potential, as approximately 40% of total production is derived from hygiene services and the seller is referring out most specialty procedures. The facility features 3 fully equipped operatories with space to add a 4th operatory. **SAN ANTONIO—WEST (ID #T454):** This established, general dentistry practice and real estate is located in a rural community approximately 75 miles west of San Antonio. The practice serves a PPO/FFS patient base, sees about 30+ new patients per month, and offers consistent annual revenue with substantial upside potential through expanding the procedures offered in-house. The turn-key office features 3 fully equipped operatories, digital sensors, intra-oral cameras, and a digital pano. **SAN ANTONIO (ID #T464):** This well-established set of practices is located in the same facility in an upscale area of northwest San Antonio. Combined, the practices have around 2,600 active patients and collected over seven figures annually over the past 3 years. The practice is located in a high-trafficked retail area, and is equipped with 5 operatories, digital X-ray sensors, a digital pano, and a CEREC digital scanner and milling unit. **SAN ANTONIO (ID #T501):** This established, premier general dentistry practice is located

in a highly sought-after area along Loop 1604 in north San Antonio. The practice serves a large PPO/FFS patient base and is located in a spacious office condo with 6 fully equipped operatories, digital Pano, digital X-rays, and digital sensors. **SAN ANTONIO (ID #T506):** This established, FFS/PPO practice and commercial real estate is located in northwest San Antonio. The 4,100 sq ft facility boasts 5 equipped operatories, a digital pano, computers throughout, and an additional 5 plumbed operatories available for expansion. **SAN ANTONIO (ID #T516):** This established, general dentistry practice and real estate is located in a desirable area in west San Antonio. The practice treats a large PPO/FFS patient base, sees 20+ new patients per month, and refers out nearly all specialty procedures (orthodontics, oral surgery, implant placement, and endo). The modern office features 6 fully equipped operatories with intraoral cameras, digital X-ray sensors, nitrous, and a digital pano. **SOUTH TEXAS (ID #T460):** This established, legacy practice and free-standing building is located in a charming south Texas town. The office is located in a 2-story, free-standing building and has a spacious layout that includes 6 fully equipped operatories (1 additional plumbed for expansion, digital sensors, a digital pano, CBCT, and computers throughout. To request more information on our listings, please register at www.dentaltransitions.com or contact us at 512-900-7989 or info@dentaltransitions.com.

AUSTIN, VICTORIA, SAN ANTONIO, AND DFW AREA (DDR DENTAL Listings). (See also HOUSTON for other DDR Dental listings and visit www.DDRDental.com for full details. AUSTIN —GENERAL/PROSTHODONTIC practice provides comprehensive care but focuses on TMJ, occlusal rehabilitation and high-end cosmetic procedures. Must be prosthodontist or like training to apply. Owner prepared to remain and train in latest occlusal rehabilitation techniques.

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Located in highly sought-after affluent Austin area that is in very high demand and closely proximate to downtown between entertainment and hi-tech corridors (in the "Heart of Austin"). In a single-story stand-alone building that draws from mature upscale neighborhood and nearby schools. Practice produces seven figures, in 5 operatories, (3 dental and 2 hygiene) within 2,000 sq ft. Immaculate equipment, all digital with pano. Majority of patients 41 and older with 98% collection ratio. NOTE: Practice recently acquired additional patient base that should boost production, new patients and collections. Contact Jim Dunn at 800-930-8017 or christopher@ddrdental.com and reference "Austin Cosmetic or TX#560". VICTORIA AREA—GENERAL practice provides a wide range of procedures for a small town near Victoria. Gross collections in the high six figures. The practice has a broad mix of patient ages. Most are middle- to high-income households. Practice is 100% fee for service. In a single story stand-alone building. Only 2 other dental offices within 15 miles. 2,800 sq ft. Expanded in 2000. Located on a high visibility street. Does have digital X-ray and pano. This practice uses mainly word of mouth as its source of new patients. 99% collection ratio. Contact Christopher Dunn at 800-930-8017 or christopher@ddrdental.com and reference "Victoria Area or TX#567". SAN ANTONIO—GENERAL Practice provides comprehensive general dentistry in a growing major Texas city. The practice is located in a highly trafficked area near a major highway. This practice is 1,536 sq ft with the ability to expand into the office next door. It has 2 operatories with 1 used for hygiene. The operatories are plumbed for Nitrous. There is a good mix of patients ages, with the largest percentage between 30 to 65. The practice has been at its current location for 35 years. The practice is mostly fee for service, with some PPO insurance accepted. The practice has a 98% collection ratio. Contact Christopher Dunn at 800-930-8017 or christopher@

ddrdental.com and reference "San Antonio or TX569".

AUSTIN: Associate to buy, planning on long transition. Prefer GP interested in orthodontics. Fee-for-service practice, 43 years same location, long standing staff, beautiful view. Email Info@AustinSkylineDental.com.

DALLAS: Don't waste time and money on buildouts when you can have a great practice today. Great opportunity to start your dental practice without having to pay a big loan and interest. Flexible lease options are available for well-qualified dentists with no down payments and no interest for up to two years. Don't waste time and money on buildouts when you can have a great practice today. Turnkey dental offices for sale in the Dallas Fort Worth metro and surrounding areas, the offices are strategically located in areas for high production with ample parking. Locations are ideal for Emergency Dental services, Medicaid, Insurance and FFS. Can be sold separately or as a package. Requirements Dentists need to have at least 2 years of experience in private practice/corporate dentistry; credit and background check. For more information, please email Txpracticesales@gmail.com or call/text 214-995-0806.

FORT WORTH: Practice for sale in the fast growing Southwest area. Average gross; 6 operatories; Excellent lease. Seller is relocating. Need to move quickly on this one. DFW 214-503-9696. WATS 800-583-7765.

HOUSTON AREA: Several acquisition opportunities in the greater Houston area. General, ortho, pedo practices available for sale. Visit lonestarpracticesales.com or email houstondentist2019@gmail.com.

HOUSTON, COLLEGE STATION, AND LUFKIN (DDR DENTAL Listings). (See also AUSTIN for other DDR Dental listings and visit www.DDRDental.com for full

details. LUFKIN—GENERAL practice on a high visibility outer loop highway near mall, hospital and mature neighborhoods. Located within a beautiful single-story, free-standing building, built in 1996 and is ALSO available for purchase. Natural light from large windows within 2,300 sq ft with 4 operatories (2 hygiene and 2 dental). Includes a reception area, dentist office, a sterilization area, lab area, and break room. All operatories fully equipped. Does not have a pano but does have digital X-ray. Production is 50% FFS and 50% PPO (no Medicaid), with collection ratio above 95%. Providing general dental and cosmetic procedures, producing mid-6 figure gross collections. Contact Christopher Dunn at 800-930-8017 or Christopher@DDRDental.com and reference "Lufkin General or TX#540". HOUSTON—GENERAL (SHARPSTOWN) Well Established general dentist with high-6 figure gross production. Comprehensive general dentistry in the southwest Houston area focused on children (Medicaid). Very, very high profitability. 1,300 sq ft, 4 operatories in single building. 95% collection ratio. Over 1,200 active patients. 20% Medicaid, 45% PPO, and 35% fee-for-service. 30% of patients younger than 30. Office open 6 days a week and accepts Medicaid. Contact Chrissy Dunn at 800-930-8017 or chrissy@ddrdental.com and reference "Sharpstown General or TX#548". HOUSTON—GENERAL (PEARLAND AREA. Located in southeast Houston near Beltway 8. It is in a freestanding building. Dentist has ownership in the building and would like to sell the ownership in the building with the practice. One office currently in use by seller. A 60 percent of patients age 31 to 80 and 20 % 80 and above. Four operatories in use, plumbed for 5 operatories. Digital pano and digital X-ray. Contact Christopher Dunn at 800-930-8017 or christopher@ddrdental.com and reference "Pearland General or TX#538". HOUSTON—PEDIATRIC (NORTH HOUSTON). This practice is located in a highly sought-

after upscale neighborhood. It is on a major thoroughfare with high visibility in a strip shopping center. The practice has 3 operatories for hygiene and 2 for dentistry. Nitrous is plumbed for all operatories. The practice has digital X-rays and is fully computerized. The practice was completely renovated in 2018. The practice is only open 3 and a half days per week. Contact Christopher Dunn at 800-930-8017 or christopher@ddrdental.com and reference "North Houston or TX#562". WEST HOUSTON—MOTIVATED SELLER. Medicaid practice with production in 6 figures. Three operatories in 1200 sq ft in a strip shopping center. Equipment is within 10 years of age. Has a pano and digital X-ray. Great location. If interested contact chrissy@ddrdental.com. Reference "West Houston General or TX#559".

KATY: Now is the time to join Grand Lakes Dental Group and Orthodontics. You will have opportunities to learn new skills from our team of experienced professionals. If you're ready to take your career to the next level and gain valuable experience, apply today! You've invested the time to become a great dentist, now let us help you take your career further with more opportunity, excellent clinical leadership and one of the best practice models in modern dentistry. In working with our practice you will have the autonomy to provide your patients the care they deserve. In addition, you'll enjoy the opportunity to earn excellent income and have great work-life balance without the worries of running a practice. You became a dentist to provide excellent patient care and have a career that will serve you for a lifetime. With us, you will have a balanced lifestyle, fantastic income opportunities, and you'll work for an office that cares about their people, their patients and their community. Our practice is an office supported by Pacific Dental Services (PDS), which means you won't have to spend your career navigating practice administration.

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Instead, you'll focus on your patients and your well-being. Add on excellent benefits, including malpractice insurance, medical, dental and vision insurance, retirement plans and much more and you'll feel well taken care of throughout your career. The average full-time PDS-supported associate dentist earns low-6 figures in their first year. The average income for a PDS-supported owner dentist, whose practice has been open at least 2 years, is mid-6 figures. As an associate dentist, you will receive ongoing training to keep you informed and utilizing the latest technologies and dentistry practices. If you are interested in a path to ownership, our proven model will provide you with the training needed to become an owner of your own office. PDS is one of the fastest growing companies in the US which means we will need excellent dentists like you to continue to lead our growth in the future. Apply now or contact a recruiter anytime. We'd love to chat, get to know you and share more about us. Pacific Dental Services is an equal opportunity employer and does not discriminate against any employee or applicant for employment based on race, color, religion, national origin, age, gender, sex, ancestry, citizenship status, mental or physical disability, genetic information, sexual orientation, veteran status, or military status. Apply here:http://www.Click2Apply.net/gwy6pkn22knbzwzx PI106822492.

SAN ANGELO: West Central Texas orthodontic specialty practice grosses low 7+ figures annually with 60% overhead; 100% fee-for-services. Well established in community with strong doctor and patient referrals. 200+ starts annually. Practice was recently appraised. Doctor will stay for smooth transition. Inquire to hilltoportho@gmail.com.

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THE WOODLANDS: Ortho for sale: Part time orthodontic practice for sale in The Woodlands. Email craigpettey@att.net.

WATSON BROWN PRACTICES FOR SALE: Practices for sale in Texas and surrounding states, For more information and current listings please visit our website at www.adstexas.com or call us at 469-222-3200 to speak with Frank or Jeremy.

WESLACO: General dentist for pediatric practice in McAllen are.a Great opportunity for a general dentist interested in working in a pediatric dental office. Opportunity available full or part time. Our pediatric office sees patients 6 months to 21 years of age. Our philosophy is to treat our patients like family. Weslaco Pediatric Dentistry is an established pediatric dental practice, our office is computerized, has digital X-rays, and we have a wonderful staff. We offer a competitive daily base or a percentage of adjusted production (whichever is higher) For full-time position (33 hours or more per week) we offer a benefits package that includes health insurance, 401K, malpractice insurance, reimbursement for professional fees and continuing education courses. We can sponsor an H-1B work visa if required. Recent grads welcome. Spanish is helpful but not necessary. Interested dentists please email your CV or any questions to dfmego@gmail.com Please visit our website www.babyteethrgv.com We look forward to speaking with you soon!

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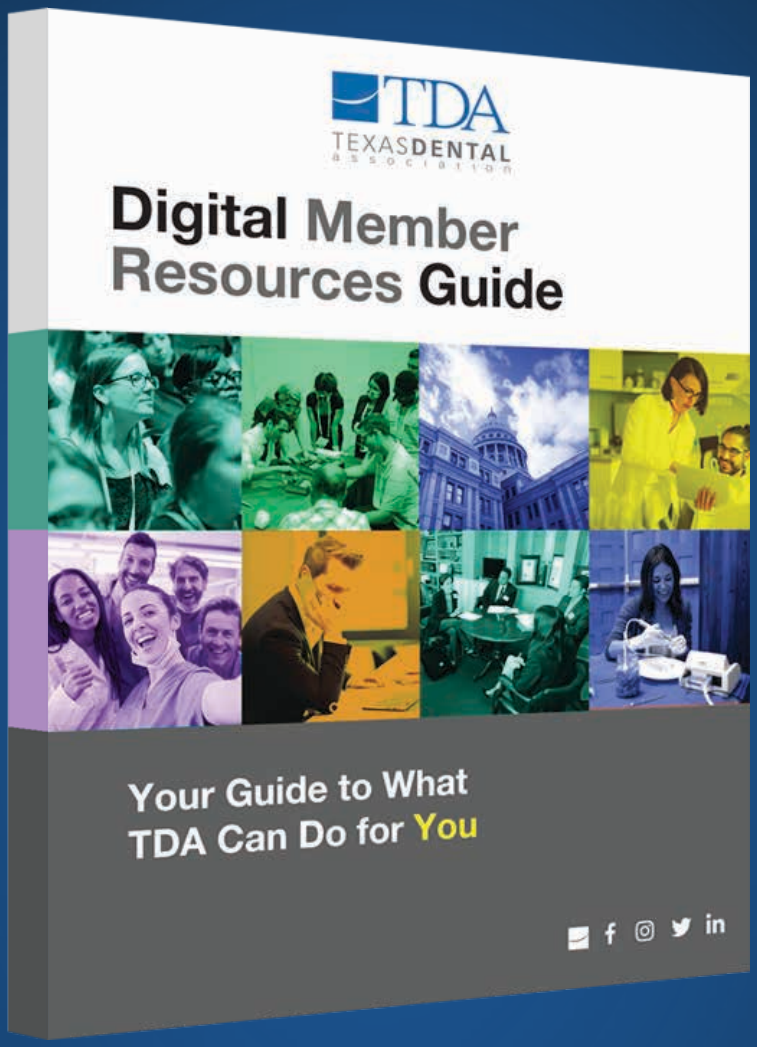

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