Infiltration of Small Caries Lesions Slows Caries Progression

Inhibition of Caries Progression by Resin Infiltration In Situ.

Paris S, Meyer-Lueckel H:

Caries Res 2010; 44 (January 16): 47-54

The option to use resin infiltration in a highly cariogenic environment, even when no additional preventive measures are applied, may be a viable treatment option, especially for noncompliant or high-risk patients.

Background: Treating proximal caries lesions today typically involves 1 of 2 methods: (1) noninvasive – localized remineralization using fluoride or other agents, oral hygiene education, and dietary education; or (2) invasive – removing the caries-affected tissue and placing a restoration. Nonoperative approaches are preferred, but these rely on the patient being compliant and can be ineffective in more advanced stages of the caries process. Invasive treatment options for proximal lesions can involve too much sound tissue destruction in order to gain access to the caries lesion and can lead to repeat restorations over a lifetime. For proximal caries extending up to the enamel-dentin junction or into the outer third of the dentin, there can be a risk of under- or overtreatment. Microinvasive approaches (such as sealing or resin infiltration) can bridge this gap and are used to treat proximal caries lesions and fissure sealing of occlusal surfaces. In contrast, caries infiltration, or penetrating the porous lesion body with special low-viscosity resins, is a newly introduced option.

Objective: To assess the efficacy of resin infiltration in reducing the progression of artificial enamel lesions in an in situ model (not in vitro). This is the first time such a study has been undertaken. **Methods:** In each of 104 bovine enamel specimens, 2 artificial enamel caries lesions were created. The specimens were randomly assigned to 2 groups: in the test group, 1 of the lesions was etched for 5 seconds (37% H3 PO_4) and subsequently infiltrated twice with a pre-product infiltrate, each time for 60 seconds. As a positive control, 1 lesion was superficially sealed with a fissure sealant. The second lesion in each specimen served as an untreated control. The specimens were inserted into intraoral appliances and worn by 11 volunteers in the mandibular buccal sulcus for 100 days. Plaque accumulation was promoted by a mesh, and the appliances were stored in 10% sucrose solution (2 x 30 min/day). The specimens were then analyzed using transverse microradiography and wavelength independent microradiography.

Results: After the in situ phase, the infiltrated and positive control lesions showed significantly less progression compared to the untreated controls.

Conclusions: Resin infiltration produced a positive effect for preventing further demineralization of artificial enamel caries lesions under cariogenic conditions in situ.

Reviewer's Comments: The findings also corroborate that a covering resin coat is not essential to inhibit further demineralization. While the clinical efficacy of resin infiltration of natural lesions requires further exploration, dental practitioners can note the significance of this study's findings for potential use with high-risk or noncompliant patients. With permanent molars and premolars, where cutting into the marginal ridge could have lifelong implications, the resin infiltration technique may be of even more value. (Reviewer-Joel H. Berg, DDS).

Keywords: Caries Progression, Resin Infiltration

Print Tag: Refer to original journal article

Prompt Aesthetic Tx of Dental Injuries Has Long-Lasting Results

Social Judgements Made by Children in Relation to Visible Incisor Trauma.

Rodd HD, Barker C, et al:

Dent Traumatol 2010; 26 (February): 2-8

Adolescents perceive visible dental injuries as being associated with negative character attributes. Prompt aesthetic restoration of traumatized incisors is indicated.

Objective: "To determine how children view other children with visible incisor trauma."

Design: Cross-sectional, self-completed questionnaire.

Methods: 2 student groups (aged 11 to 12 years and 14 to 15 years) reviewed full-face photos of children from their peer age group who had experienced visible dental trauma that had produced a dental fracture or a darkened incisor. To minimize the effects of changes to hairstyle and facial expression, these images were digitally manipulated so that the trauma appeared to be restored or nonexistent in a second set of photos.

Results: Children aged 11 to 12 years were more likely to have negative perceptions of the children with incisor trauma than children in the 14- to 15-year-old age group. Children from the 14- to 15-year-old age group rated the pictures of children with traumatized incisors higher than those with unaffected teeth.

Conclusions: The clinical implications of this study are that some children (probably all) attribute negative personality characteristics to children with visible dental trauma. Along with the evidence from the social sciences literature that adolescents and teens place greater value on physical appearance and aesthetics than other demographics, these results show dentists that timely aesthetic care for young patients with visible dental trauma is indicated and may yield psychosocial benefits.

Reviewer's Comments: The finding that those in the 14- to 15-year-old age range rated pictures of children with incisor trauma more positively than those without trauma was an unexpected result. The authors provided 2 explanations for this. The first is that 14- to 15-year-old youth were more likely to have experienced trauma than their younger peers, which may cause them to be sympathetic to children with traumatized teeth and/or perceive that the trauma was produced by attributes that required toughness in sports or other aspects of everyday life that they considered positive. The second possibility is that evidence from the social sciences literature suggests that children in the 14- to 15-year-old age range demonstrate the highest degrees of self-monitoring behavior for all age groups and may have overcompensated in their ratings to be more socially acceptable. (Reviewer-Michael J. Casas, DDS).

Keywords: Incisor, Perception, Teen, Adolescent, Peer

Print Tag: Refer to original journal article

Can Ethics Be Taught?

Enhancing Professionalism Using Ethics Education as Part of a Dental Licensure Board's Disciplinary Action. Part 2. Evidence of the Process.

Bebeau MJ:

J Am Coll Dent 2009; 76 (Fall): 32-45

Understanding of moral failings and improving ethical decision-making can be accomplished through education and guided reflection.

Background: Like any profession, dentistry has individuals who make poor ethical choices that negatively affect them, their co-workers, their patients, and society. Development of a remediation tool for these individuals could have significant positive outcomes.

Objective: To describe ethical remediation education and tools, and to review pre- and post-test statistics regarding possible outcome improvements.

Participants: 41 dental professionals identified by a state dental licensing board secondary to ethical infractions.

Methods: Of the 41 dental professionals referred by a state dental licensing board, 2 were exempt from completing an individualized course designed to enhance ethical abilities. Thirty-eight subjects completed the course and had pre- and post-test scores available for ethical sensitivity, moral reasoning, and role concept available for analysis. In addition, self-assessments of learning were reviewed.

Results: (1) Of the 16 specific infractions resulting in disciplinary action for each referral, the top 3 were allowing or performing duties that exceeded the limits of the dental practice act, insurance or Medicaid fraud, and poor record-keeping. (2) Comparing the referrals' pre-test scores showed the mean scores to be approximately 1 standard deviation below the mean for University of Minnesota dental graduates who had participated in ethics courses. (3) Mean post-test scores taken after the remediation classes and reflections showed that the referrals had "caught up" with the dental graduates. (4) Self-assessments indicated an enjoyment and appreciation for the educational experience, newly acquired understanding and appreciation for the role of the Board of Dentistry, and future intentions to be involved in organized dentistry and to "give back."

Conclusions: The difference between what practitioners say and do is significantly important. However, this study shows that the opportunity for understanding moral deficiencies and restoring professionalism through ethics education and self-reflection appears to have significant effectiveness and value.

Reviewer's Comments: It is clear that, as professionals, we do not have an ingrained uniform concept of what is and is not ethical conduct. This study provided encouraging information that, at least to a certain extent, ethics can be discussed, taught, and improvement shown. Of course, the main measure will be if practitioners who participate in such a remedial educational process outlined in this article end up before their state dental board because of new practice act infractions. Regardless, the article was very enlightening and stresses our need as professionals to advocate for more opportunities to learn in this arena. (Reviewer-Jeffrey A. Dean, DDS).

Keywords: Ethics Assessment, Ethical Sensitivity, Moral Reasoning, Professional Standards

Print Tag: Refer to original journal article

PAI Status Helps Plan Treatment for Teeth With PCO

Evaluation of Radiographs, Clinical Signs and Symptoms Associated With Pulp Canal Obliteration: An Aid to Treatment Decision.

Oginni AO, Adekoya-Sofowora CA, Kolawole KA:

Dent Traumatol 2009; 25 (December): 620-625

Endodontic treatment should be initiated only on teeth with pulp canal obliteration when periapical pathology is noted radiographically.

Background: Pulp canal obliteration (PCO), also called calcific metamorphosis, represents a pulpal response to trauma characterized by deposition of hard tissue in the root canal space. The periapical index (PAI) estimates the health of periapical tissues based on their radiographic appearance. A PAI score of 1 to 5 indicates a range from healthy to severe apical periodontitis.

Objective: To assess clinical signs, symptoms, and PAI status of teeth with PCO as aids in making treatment decisions.

Methods: All teeth diagnosed with PCO over a 4-year period (n=276) were assessed for pain, swelling, sinus tract drainage, discoloration, and sensibility to electric pulp testing (EPT). The PAI status was determined based on the presence of periapical radiolucencies, and patients were questioned regarding the history of trauma to the teeth. Partial PCO (PPCO) was diagnosed when either the pulp chamber or the root canal was reduced in size radiographically. Total PCO (TPCO) was diagnosed when both the root canal and pulp chamber were not radiographically visible. Pulps were diagnosed as necrotic (PN) in teeth non-responsive to EPT and with PAI scores ≥3 indicating obvious periapical radiolucency.

Results: Overall, 27% of teeth demonstrated PN; 57% of teeth demonstrated PPCO, and 43% had TPCO. Fifteen percent of the teeth with PPCO had PN, and 44% of the teeth with TPCO had PN. Eighty percent of teeth demonstrated yellow or gray discoloration. Approximately one-third of these teeth had periapical lesions and responded negatively to EPT, but color change was not a statistically significant predictor of PN. All teeth presenting with PAI scores ≥3 also demonstrated associated symptoms including pain on percussion, spontaneous pain, slight swelling, or draining fistula.

Conclusions: Teeth with TPCO were significantly more likely to present with PN than those with PPCO. Tooth discoloration did not predict PN. Endodontic treatment is indicated for teeth exhibiting periapical radiolucency, tenderness to percussion, and negative responses to EPT.

Reviewer's Comments: This paper's finding that 27% of teeth with PCO had necrotic pulps is much higher than previous reports ranging from 1% to 13%. It is unfortunate that the age of the patients in this study was not reported, as we know from earlier research that PCO is a common sequela to luxation injuries to young permanent teeth. If the patients in this study were adults, it is possible that they had sustained multiple injuries to the teeth, but these data were not reported. The high incidence of tooth discoloration is important even though it didn't predict pulp necrosis. Patients/parents should be counseled about the potential of tooth discoloration in the future, and treatment options explained though any endodontic intervention should obviously be deferred until after complete root maturation has occurred. (Reviewer-Dennis J. McTigue, DDS, MS).

Keywords: Dental Trauma, Pulp Canal Obliteration, Periapical Index

Print Tag: Refer to original journal article

Time to Recommend Milk as a Beverage

Adolescent Beverage Habits and Changes in Weight Over Time: Findings From Project EAT.

Vanselow MS, Pereira MA, et al:

Am J Clin Nutr 2009; 90 (October): 1489-1495

A significant inverse association has been found between whole white milk and weight gain.

Background: >31% of pediatric patients are obese or overweight. The average American citizen consumes 21% of their daily energy intake from beverages. Soft drink consumption has increased 74% in males and 65% in females, while milk consumption has decreased 72% in males and 52% in females. Numerous factors other than diet have been implicated, including decreased physical activity and increased “couch” activities associated with watching TV or video and electronic gaming.

Objective: To examine the associations between beverage intakes, physical activity, dietary and parental weight-related concerns, and changes in weight over 5 years in a population of adolescents who had participated in an earlier study.

Design: Longitudinal, prospective cohort study over 5 years comparing data from 2 surveys.

Participants: 2294 subjects evaluated 5 years later from an original cohort of >4700 adolescents from a diverse population from 31 middle schools and high schools in the Minneapolis/St. Paul area.

Methods: Participants self-responded to a 149-item food frequency questionnaire that also included weight/height for body mass index (BMI) determination, sociodemographic characteristics, dietary and parental weight-related concerns, smoking, and physical activity. Multivariate linear regression analysis examined associations between beverage consumption and changes in weight and BMI between the first and second surveys.

Results: 2294 usable surveys of 2516 submitted were analyzed. The mean age of the subjects was 14.9 years; 63% were white, and 55% were female. A significant inverse association was found between whole white milk and weight gain. Consumption of low-calorie soft drinks was positively associated with weight gain, while sugar-sweetened beverages were not positively associated with weight gain.

Conclusions: Longitudinal and randomized, controlled trials are needed that address portion sizes and assess sexual maturation stages, puberty status, and the link with beverage consumption and weight gain.

Reviewer's Comments: Some of the findings of this study are counter-intuitive to popular beliefs. Although containing many health benefits, whole white milk also contains fats and calories that could contribute to weight gains; skim or 1% milk may not, but no differentiation was made in this study. Most people think that by drinking low-calorie soft drinks, they then can gorge themselves with snacks of high density and carbohydrate content. However, it is evident that we have become a population of “couch potatoes,” with reports as high as >7 hours daily of TV/video watching or playing electronic games; we need to be involved in vigorous exercises daily. We have a wonderful opportunity to endorse and promote dietary practices, lifestyles, and making evidence-based decisions among our adolescent patients. At this age, very few adolescents are visiting their pediatrician on a regular basis, but most likely they are scheduling periodic dental visits. Take advantage of this wonderful teaching opportunity. (Reviewer-Arthur J. Nowak, DMD).

Keywords: Obesity, Overweight, Sweetened Beverages, Milk

Print Tag: Refer to original journal article

Enamel Defects in Permanent Molars May Be Associated With Asthma Drug Use

Association Between Use of Asthma Drugs and Prevalence of Demarcated Opacities in Permanent First Molars in 6-to-8-Year-Old Danish Children.

Wogelius P, Haubek D, et al:

Community Dent Oral Epidemiol 2010; 38 (April): 145-151

Defects in enamel development are associated with local and systemic factors.

Background: Enamel defects in first permanent molars are a common finding among pediatric dentistry patients.

Design/Objective: In this retrospective study, the authors examined the prevalence of enamel opacities described as having color changes only or as having color changes combined with loss of tooth substance.

Participants: Subjects were between 6 and 8 years of age and were seen at municipal dental clinics in Denmark.

Methods: Asthma drugs were classified as inhaled $ß_2$-agonists, oral $ß_2$-agonists, and inhaled corticosteroids. Calibrated examiners recorded findings in permanent molars using previously described criteria. Conditions recorded included the presence of demarcated opacities, enamel breakdown, atypical restorations, and extraction due to demarcated opacities.

Results: 745 children were examined. Of these, 647 had fully erupted permanent first molars. Forty percent of the subjects had not received any asthma medications. The remaining children had received ≥1 asthma medications, primarily oral $ß_2$-agonists. Enamel defects of any type were identified in 37% of the subjects. An increased prevalence of opacities with or without loss of tooth substance was observed in children with prescriptions for both inhaled $ß_2$-agonists and inhaled corticosteroids during the first 3 years of life when compared to children without asthma drug prescriptions or with prescriptions of oral or inhaled $ß_2$-agonists alone. There was a tendency for increased opacity-related loss of tooth substance in children with prescriptions for asthma drugs prior to age 3 years.

Reviewer's Comments: In this study, the authors had access to the child's gestational age and were able to adjust for this factor. Examiners were trained and calibrated and did repeated examinations on a subset of the children to validate their findings. Enamel opacities were seen in children both with and without a history of asthma drug use. Although this study does not demonstrate cause and effect, there is evidence of an association between use of inhaled $ß_2$-agonists and steroids prior to the age of 3 years and opacity-related loss of tooth substance. This finding would justify a prospective study where the severity of asthma for each child could also be documented. (Reviewer-Rebecca L. Slayton, DDS, PhD).

Keywords: Enamel Opacity, Asthma Drugs, Permanent First Molars

Print Tag: Refer to original journal article

Bruising Characteristics May Indicate Child Abuse

Bruising Characteristics Discriminating Physical Child Abuse From Accidental Trauma.

Pierce MC, Kaczor K, et al:

Pediatrics 2010; 125 (January): 67-74

Bruising occurs due to both accidental trauma and physical child abuse. Discriminating differences exist in bruising characteristics between the 2 groups, and a bruising clinical decision rule identifies those who require further evaluation for abuse.

Objective: To identify discriminating differences in bruising characteristics between children with abusive versus accidental trauma and to develop a clinical decision tool for screening those at high risk for abuse.

Design/Participants: This was a retrospective, case control study of 95 children, 0 to 48 months of age, who were admitted to the PICU of a children's hospital due to trauma between January 2002 and December 2004. The study sample, identified by using the hospital trauma registry, consisted of 42 test subjects diagnosed as victims of physical abuse and 53 age-matched control subjects admitted due to accidental trauma. Bruising characteristics and age were compared between the 2 groups.

Methods: Patient data, including age, race, gender, bruising characteristics (number and location), associated injuries, and stated cause of the injury, were obtained from the nursing database, patients' medical records, and autopsy reports if indicated. Descriptive statistics were calculated for patient age, cumulative bruise counts, and their location; the difference between the test and control groups was tested with a negative binomial regression. A clinical decision rule for predicting abusive trauma was developed with the fitting of a classification and regression tree (CART).

Results: Of the 95 subjects, 71 (33 in the abuse group and 38 from the accident group) exhibited bruising. The bruising characteristics of both groups were analyzed, compared, and modeled. The total bruise count was significantly higher in the abuse group (median, 6.0) compared to the accident group (median, 1.5). Bruising found on the aggregate body region to include the torso, ear, and neck (TEN) of a child ≤4 years and bruising in any region of an infant <4 months of age were discriminating characteristics for physical abuse, were rarely found in the accident group, and served as a red flag. If the cause of the unusual bruising cannot be verified as accidental, then further evaluation and a screening for child abuse is required.

Conclusions: Definite discriminating bruising characteristics exist between abusive and accidental trauma. The body region and age-based bruising clinical decision rule model derived from this study exhibited a sensitivity of 97% and a specificity of 84% for predicting abuse, and may be used as a clinical screening tool to identify young children at risk for abuse and who require further assessment.

Reviewer's Comments: This is a good retrospective study with an adequate sample size and findings consistent with earlier studies. The authors went a step further and developed a reliable clinical decision rule model to function as a screening tool that could, with prospective testing, be used in different clinical settings. Although recorded according to hospital protocol, one area of concern is inter-examiner reliability between nursing skin assessments during the patients' admission. (Reviewer-Erwin G. Turner, DMD).

Keywords: Bruising, Child Abuse, Accidental Trauma

Print Tag: Refer to original journal article

Administration of Local Anesthetic Does Not Improve Recovery Period

The Effect of Local Anesthetic on Quality of Recovery Characteristics Following Dental Rehabilitation Under General Anesthesia in Children.

Townsend JA, Ganzberg A, Thikkurissy S:

Anesth Prog 2009; 56 (Winter): 115-122

Administration of a local anesthetic does not seem to improve the recovery period and may have some disadvantages.

Background: There may be some disagreement among pediatric dentists regarding the efficacy of a local anesthesia to improve the post-treatment recovery period. Indeed, if you asked 10 pediatric dentists about the value of administering a local anesthetic, there would probably be a 50/50 split. No clear guidelines exist for the use or nonuse of post-treatment local anesthesia following oral rehabilitation under general anesthesia. This study helps to fill the void of evidence on the subject.

Objective: To determine whether local anesthesia administered in conjunction with an IV nonsteroidal anti-inflammatory drug (NSAID) improved the quality of recovery for children immediately post-treatment and later at home.

Design: Randomized, prospective, double-blind study.

Participants: 27 healthy children aged 3 to 5.5 years.

Methods: 15 children in the experimental group were given an oral infiltration of local anesthetic in addition to IV ketorolac tromethamine. The 12 children in the control group were given IV ketorolac tromethamine alone. Pain behaviors were assessed using a variety of scales immediately postoperatively and at 4 hour postoperatively.

Results: The children receiving a local anesthetic had a higher incidence of negative symptoms including lip biting and chewing.

Conclusions: Infiltration of a local anesthetic following general anesthesia for oral rehabilitation did not improve the quality of recovery in children 3 to 5.5 years of age.

Reviewer's Comments: This is a well conceived and carried out study that can help guide pediatric dentists as to the efficacy of local anesthesia in improving the post-treatment recovery period. The only shortfalls of the study were the small sample size and preoperative behavioral scale scoring as baseline measures. (Reviewer-Paul O. Walker, DDS, MS).

Keywords: General Anesthesia, Pediatric Dentistry, Pain, Local Anesthesia, Recovery Quality

Print Tag: Refer to original journal article

Dynamic Duo Shows Promise for Controlling Proximal Lesion Progression

Treatment of Proximal Superficial Caries Lesions on Primary Molar Teeth With Resin Infiltration and Fluoride Varnish Versus Fluoride Varnish Only: Efficacy After 1 Year.

Ekstrand KR, Bakhshandeh A, Martignon S:

Caries Res 2010; 44 (March): 41-46

Clinically and radiographically, resin infiltration with fluoride varnish treatment of proximal lesions on primary molars proves superior to fluoride varnish treatment alone in controlling caries progression.

Background: This study took place in Nuuk in Greenland, Denmark, where the majority of children have a very high caries progression rate; 25% of 7-year-old children have ≥1 restorations on the proximal surfaces of primary molars. This number increases to 52% in 9-year-olds. In other countries, due to caries in primary molar teeth, there is a similar or even higher prevalence of restorations or extractions. Preventive approaches for active proximal lesions have been tested but often prove cumbersome because of the number of office visits required of young patients. Resin infiltration, which requires only 1 visit and aims to improve the penetration of resin into the subsurface lesion by removing the surface zone of the lesion with a strong acid, is an option.

Objective/Participants: To assess (during 1 year) the efficacy of treatment of early proximal caries lesions on primary molar teeth with resin infiltration in conjunction with fluoride varnish (FV) versus FV only. The sample target population consisted of 5- to 8-year-old children attending the Public Dental Health Service for Children in Greenland. The study lasted 1 year.

Methods: Children with ≥2 superficial proximal lesions on primary molar teeth detected on bitewing radiographs were included. After written parental consent, 2 lesions in each of the 50 children were randomly allocated to 1 of 2 treatments: resin infiltration followed by FV (2.26% F) application (test lesion) versus only FV (control lesion). FV was applied to both test and control lesions 6 and 12 months after the first treatment. After 1 year, International Caries Detection and Assessment System (ICDAS) scores, a measure of lesion depth, were obtained for 42 children and radiographs for 39.

Results: After 1 year, the ICDAS scores of 31% of the test lesions and 67% of the control lesions had progressed (P <0.01). Radiographically, 23% of the test lesions and 62% of the control lesions had progressed (P < 0.01). Consequently, "…the clinical and radiographic therapeutic effect of both resin infiltration/FV over FV alone was >35% and significant."

Conclusions: Resin infiltration in conjunction with FV seems promising for controlling proximal lesion progression on primary molar teeth.

Reviewer's Comments: In countries where the prevalence of proximal caries in primary molar teeth is high, practical, effective, and realistic clinical procedures are especially valuable in treating children. This study confirms that resin infiltration of proximal lesions with FV is proving a viable option. As improved caries detection tools are introduced into the marketplace, our ability to discern the presence of smaller lesions will improve. Therefore, the number of proximal lesions in primary molars that will be too small to cut will increase and the option of resin infiltration as a means to halt lesion progression will become more valuable. (Reviewer-Joel H. Berg, DDS).

Keywords: Caries, Fluoride Varnish, Primary Molars

Print Tag: Refer to original journal article

The Choking Game -- What's That?

"Choking Game" Awareness and Participation Among 8th Graders — Oregon, 2008.

Ramowski SK, Nystrom RJ, et al:

MMWR 2010; 59 (January 15): 1-5

The Choking Game is a risky behavior for youths that can cause long-term disability or even death.

Background: While more often than not, this report contains information that is of limited value to practicing dentists seeing children, occasionally, a report of great value is received. This was the case with the MMWR, Volume 59, Number 1 received on January 15, 2010.

Objective: To inform the public health system about strangulation activities among youths, to quantify risks and understand the motives for participation in this activity, and to understand the serious health effects associated with it.

Methods: The state of Oregon conducted the Oregon Healthy Teens survey, which is an annual survey of 8th and 11th grade students within the state. The survey is an anonymous population-based study. In 2008, the Oregon Public Health Division added a question to the survey to assess the awareness and prevalence of strangulation activities among 8th graders. More than 10,000 students took the survey and of these, nearly 8,000 answered the "choking game" questions. The "choking game" is an activity during which individuals strangulate themselves in order to achieve euphoria as a result of brief hypoxia. This activity has been has been known to cause both long-term disability and death among youths and is different than autoerotic asphyxiation. This activity is also known as Knock Out, Space Monkey, Flatlining, and The Fainting Game. During 2008, 88 deaths were attributed to the Choking Game. Most victims were males between 11 and 16 years of age.

Results: The results indicated that more than one-third of the 8th grade respondents had heard of the game and also had heard of someone participating in the game. Nearly 6% had participated in the game themselves! When comparing rural areas to urban areas, rural area participation was close to 7%, and urban area participation was nearly 5%. Participation by gender was almost equal (males, 6.1% and females, 5.3%).

Conclusions: The Centers for Disease Control and Prevention (CDC) notes that this is the first systematic assessment of awareness and participation in strangulation activities among youths. A survey of >150 pediatricians revealed that 33% were not aware of this activity.

Reviewer's Comments: The CDC notes that parents, educators, counselors, health-care providers, and other individuals who work with youths should be aware of strangulation activities and signs of participation, such as mention of The Choking Game or any of the other names previously mentioned. In addition, bloodshot eyes, marks on the neck, frequent and severe headaches, disorientation after spending time alone, and ropes, scarves, or belts tied to furniture or doorknobs may also be signs of participation. (Reviewer-Paul O. Walker, DDS, MS).

Keywords: Choking Game, Knock Out, Space Monkey, Flatlining, The Fainting Game

Print Tag: Refer to original journal article

Chewing Xylitol-Containing Gum During Pregnancy Improves Child's Oral Health

Xylitol Gum and Maternal Transmission of Mutans Streptococci.

Makai Y, Singe-Ishihara C, et al:

J Dent Res 2010; 89 (January): 56-60

Prevention of oral disease for offspring can begin during pregnancy.

Background: Xylitol decreases the synthesis of insoluble extracellular polysaccharides in vitro thereby inhibiting transmission from mother to infant. The earlier the mutans streptococci (MS) colonization, the greater the risk for dental decay in children. Studies from Nordic countries where xylitol has been prescribed to pregnant women have shown decreased MS counts and reduced transmission.

Objective: To determine of xylitol chewing gum used daily by mothers during pregnancy is tolerated and can reduce MS counts.

Design: Randomized controlled clinical trial.

Participants: Women were recruited from an obstetrics and gynecology clinic in Japan to participate; 225 of the potential 400 mothers recruited were selected because of high MS levels.

Methods: The mothers were randomly assigned to either a control or intervention group. Both groups received routine basic prevention measures; the intervention group was further assigned to chew xylitol-containing gum beginning in the 6th month of pregnancy and continuing for 13 months. Unstimulated saliva samples were collected from the infants at 6, 9, 12, 18, and 24 months of age, incubated, and the density of MS was read. At each saliva collection visit, the number of teeth present was recorded. In the 6th month of pregnancy, the mother had an examination to record decayed, missing, and filled teeth (DMFT). The chewing gum distributed to the intervention group contained 1.32 g xylitol. Mothers were instructed to chew 1 gum pellet for >5 minutes at least 4 times per day. Participants recorded gum use and any abdominal discomfort as well as any jaw and TMJ discomfort. Data were subjected to statistical analysis to measure MS colonization in children.

Results: 77 of the 107 randomized pairs completed the study. There were no reported side effects. Mean gum use was 2.9 times per day or 3.83 g per day of xylitol. Mothers' mean age was 30 years, and the mean DMFT was 14. The control group acquired MS at an average of 12 months compared to the xylitol group at 20.8 months. With the average daily dose of 3.83 g per day, there was significant reduction of mother-child transmission in this population of Japanese mothers.

Conclusions: Chewing xylitol-containing gum by pregnant mothers beginning in the 6th month of pregnancy and continuing for 13 months significantly reduced mother-child MS transmissions with no side effects and with favorable compliance.

Reviewer's Comments: This study confirms what many other studies have reported on xylitol use in pregnant moms and reduction of MS transmissions. So why is the use of xylitol in pregnant women (especially high-risk populations) not becoming a standard of care? Is there something the Food and Drug Administration knows that refutes the findings and favorable outcomes in the Nordic and now the Japanese studies? Xylitol is available commercially in a number of forms (gels, lozenges, and gum). We need to get together with our OB-GYN colleagues and agree on a protocol. We have a technique that gets to the root of the disease process, so let's use it. (Reviewer-Arthur J. Nowak, DMD).

Keywords: Xylitol, Transmission, Mutans Streptococci, Pregnancy

Print Tag: Refer to original journal article

The Choking Game -- Fatal, Foolish Behavior

The Choking Game: Physician Perspectives.

McClave JL, Russell PJ, et al:

Pediatrics 2010; 125 (January): 82-87

Warning signs for the choking game include unexplained neck bruising, bloodshot eyes, facial petechiae, and headaches.

Background: The choking game, which has been around for many years in different incarnations, involves the use of applied pressure to the back of the neck, typically through another person's hands, neckties, belts, or ligatures. A second person holds the first with the applied pressure and right before the first person passes out, the second loosens the “tie.” This leads to a pleasurable feeling as the pressure is released. Participants are often between 7 and 21 years of age. Some participants who become addicted to the pleasure, play this alone and as a result have near-death or fatal outcomes. Warning signs of a child or adolescent who is participating in the choking game include headaches, unexplained neck bruising, bloodshot eyes, facial petechiae, and wear marks on furniture.

Objective: To assess pediatrician and family practitioner knowledge of the choking game and its inclusion in anticipatory guidance.

Methods: Subjects from northeastern Ohio were surveyed either by mail or email to assess their knowledge of the choking game and what anticipatory guidance topics were covered for patients 8 to 18 years of age.

Results: Data were collected from 163 physicians; 68% of the physicians reported knowledge of the choking game, including 7% who either participated in it themselves or knew of it from childhood friends. Other names for the choking game identified by subjects included “pass-out game”, “fainting game”, “black out”, “5 minutes of heaven”, “rush”, and “speed dreaming.” The most common signs physicians identified were bruising around neck (70%), followed by bloodshot eyes (46%). Among the respondents, 65% felt that anticipatory guidance on the choking game should be included in well-child visits. It should be noted that when surveyed on anticipatory guidance, 90% of physicians felt that there is not enough time in typical well-child visits to cover all recommended topics. The most commonly covered topics were smoking/chewing tobacco (88%), healthy diet (88%), and adequate physical activity (86%).

Conclusions: Due to its morbidity and mortality, the choking game should be included in anticipatory guidance for older children and adolescents.

Reviewer's Comments: The second half of this article (on anticipatory guidance) is as fascinating as the first half (on the choking game). Again, physicians feel there is not adequate time to cover all the recommended topics. I was surprised to see the prevalence of the choking game in children as young as 7 years of age! The dentist may be in a position to recognize the warning signs and make an appropriate referral. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Child Injury, Risk Management, Anticipatory Guidance

Print Tag: Refer to original journal article

Overlooking Mental Illness Among CSHCN

Prevalence and Correlates of Internalizing Mental Health Symptoms Among CSHCN.

Ghandour RM, Kogan MD, et al:

Pediatrics 2010; 125 (February): e269-e277

Approximately 70% of children with ASD also suffer from internalizing mental health symptoms.

Background: Studies show that 50% of all mental health illness in the U.S. starts before the age of 14 years, and 75% begins before the age of 24. Mental health conditions among children can result in developmental and emotional problems, as well as poor overall health and poor function.

Objective: To evaluate nationally representative data for internalizing symptoms (defined as inner distress, such as being withdrawn or experiencing somatic complaints, anxiety, and depression).

Methods: This study took data from the 2005-2006 National Survey of Children with Special Health Care Needs (NS-CSHCN). The NS-CSHCN is a random-digit-dial telephone survey from all 50 states and is compromised of 40,465 caregiver interviews.

Results: Nearly 33% of all CSHCN 3 to 17 years of age experienced internalizing mental health (IMH) symptoms. The prevalence increased over time, with nearly 40% of 12- to 17-year-old CSHCN children experiencing such symptoms. Of note is that 70% of children with autism spectrum disorder (ASD) suffered from internalizing symptoms. Children with behavioral problems were 6 times more likely to suffer from IMH symptoms, and those with attention-deficit/hyperactivity disorder (ADHD) were twice as likely as children without special health care needs to suffer internalizing symptoms.

Conclusions: Comorbid behavioral conditions, activity limitations, and age were the strongest predictors of IMH symptoms.

Reviewer's Comments: While the NS-CSHCN boasts an impressive dataset of >40,000 caregivers, the fact that the reports are from caregivers and not from a physician casts some doubt over the true veracity of the data. There is the phenomenon of parents reporting symptoms on a much coarser level than a trained health-care provider. Having said that, the premise here is provocative and makes sense; kids with special health care needs (particularly with comorbid neurobehavioral conditions) are often affected by other mental illnesses, such as depression, anxiety, and eating disorders. This paper relates the iceberg that is mental illness, and when disguised by a medical condition such as autism or ADHD, the true effects may not be eminently visible. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Behavioral Disorder, Mental Illness

Print Tag: Refer to original journal article

Helping Parents Develop Discipline Skills

A Brief Primary Care Intervention Helps Parents Develop Plans to Discipline.

Scholer SJ, Hudnut-Beumler J, Dietrich MS:

Pediatrics 2010; 125 (February): e242-e249

After an educational intervention, parents are more likely to rely on explanation and less on spanking for disciplining their children.

Background: An intuitive theory in child and family development supported in the literature is that childhood aggression and inappropriate parental discipline are strong predictors for violent behavior in later life. A major deficiency that has been theorized to contribute to this is the lack of anticipatory guidance on childhood behavior and discipline given to parents.

Objective: To determine if a primary care intervention could help parents understand and develop alternative methods of discipline.

Design: Randomized, controlled trial.

Methods: Caregivers were recruited as they presented with their children (age range, 12 months to 5 years) for well-child visits at the Vanderbilt Pediatric Primary Care Clinic. Parents needed to speak either English or Spanish. Caregivers were randomly assigned to the intervention or control group (1:1 ratio). While in the examination room and prior to seeing the physician, families in the intervention group watched an educational video on a computer (the Play Nicely program). Control-group caregivers had a routine well-child visit with the pediatrician. Following their well-child visit, subjects underwent a 2-minute interview with study staff. All caregivers were asked, "As a result of the clinic visit today, do you plan to change how you discipline your child or respond to your child's behavior in the future?"

Results: Data were collected from 258 caregivers. Overall, caregivers in the intervention group were 12 times more likely to have been helped in developing alternate appropriate methods of discipline compared to the caregivers in the control group. Intervention caregivers were most likely to subsequently use the following strategies: to do more explaining of reasons for not using hurtful behavior to their child; to talk to their child; and to utilize time out and less spanking.

Conclusions: A brief, primary-care intervention program helped English- and Spanish-speaking caregivers develop appropriate disciplinary methods for their children.

Reviewer's Comments: Aside from the results and conclusions presented, I thought this was a fascinating read for its subtle implications. Anticipatory guidance by physicians covers such a vast scope of subjects, that to be honest, expecting them to include oral health (currently a major “push”) seems unrealistic. This study suggests that a directed intervention for discipline is successful, and this seems potentially more life-altering for many families than optimal oral health. Family violence resulting in abuse is consistently one of the top causes of childhood death. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Child Abuse, Anticipatory Guidance

Print Tag: Refer to original journal article

Managing Spasticity in Children With CP

Practice Parameter: Pharmacologic Treatment of Spasticity in Children and Adolescents With Cerebral Palsy (an Evidence-Based Review): Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society.

Delgado MR, Hirtz D, et al:

Neurology 2010; 74 (January 26): 336-343

Valium has been shown to be a fairly effective short-term management medication for CP-associated spasticity.

Background: It is estimated that nearly 4 of every 1000 8-year-old children are affected by cerebral palsy (CP). CP is the most common cause of spasticity in children. Spasticity is defined by the American Academy of Neurology Taskforce on Childhood Motor Disorders as "hypertonia in which one or both of the following signs are present: (1) resistance to externally imposed movement increases with increasing speed of stretch and varies with the direction of joint movement; (2) resistance to externally imposed movement rises rapidly above a threshold speed of joint angle." Alleviation of spasticity is not always desired, as some individuals may experience a decline in function with spasticity reduction.

Objective: To review and evaluate published evidence on the efficacy and safety of medications used to treat spasticity in children with CP.

Methods: A literature search of EMBASE and MEDLINE for articles published between 1996 and 2008 was conducted. Inclusion criteria included all foreign languages with English abstracts, human subjects, peer reviewed, patients ≤19 years of age with CP, and >9 subjects included.

Results: From an initial set of 978 abstracts, 218 finally qualified based on all inclusion/exclusion criteria. Diazepam was shown to probably be effective as a short-term spasticity treatment in children with CP. Ataxia and drowsiness/sedation were reported adverse effects in most studies. Dantrolene was shown to be somewhat effective, although not conclusively. Side-effects included weakness and irritability. There is poor evidence to support or refute oral baclofen use in the treatment of spasticity, and the same goes for intrathecal baclofen.

Conclusions: There is no oral medication for treatment of spasticity in CP children that has been adequately tested. The literature supporting pharmacokinetics and dosing for these medications in children with CP is poor.

Reviewer's Comments: This study illustrates that much of what is done in medicine is not based on overwhelming evidence, but rather through case-by-case clinical analysis of risks and benefits. Intrathecal baclofen is very commonly used to treat spasticity in children with CP, and yet this study suggests the evidence is largely inconclusive as to its overall efficacy. This study does a good job of distinguishing “body of evidence” from “quality of evidence.” (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Cerebral Palsy, Spasticity, Pharmacologic Treatment

Print Tag: Refer to original journal article

Fever of Unknown Origin -- An Adversary Worthy of Investigation

Fever of Unknown Origin: A Diagnostic Approach to This Vexing Problem.

Tolan RW Jr:

Clin Pediatr 2010; 49 (April): 207-213

The majority of children (35%) with a FUO will have an infectious etiology, while 30% will get better before a diagnosis can be achieved.

Fever without an accompanying illness may be classified as fever of unknown origin (FUO). The FUO presents a diagnostic challenge to parents as well as health-care providers. An initial challenge lay in the fact that there is no distinct “rule of thumb” for what defines a fever, but rather locally adopted policies. The majority of these define a fever as a documented temperature of >38º C (100.4º F). For FUO in children, many textbooks cite, “…an illness accompanied by a temperature of 38.4º C (101.1º F) once daily on at least 10 of the previous 14 days…without a specific cause." More common than a true FUO is a pseudo-FUO in which vague symptoms persist after the perceived resolution of a benign, self-limited illness. In many cases, a second febrile illness occurs, with parental (and sometimes health-care provider) perception being that it is in fact the continuation of the initial illness. Less common than a pseudo-FUO, but more common than a true FUO, is deconditioning (DC). DC is classically when a previously energetic and healthy adolescent feels unwell or presents with a perceived febrile episode. Although a true illness may have occurred, the patient feels diminished in capability, esteem, and stamina. DC is often accompanied by weight gain, poor dietary habits, and in some cases, social isolation. All 3 of the above situations require a concerted diagnostic effort that includes a careful history, laboratory assessment, and physical examination. A fundamental principle is that the evaluation should be guided by the degree of illness of the child rather than the parent’s or health-care provider's anxiety.The differential diagnoses for FUO are numerous and often with disparate etiologies (including, dental abscess). Studies have demonstrated that approximately 30% to 35% of children will have an infection, 20% will have an immunologic/autoinflammatory condition, 10% will have a neoplasm, and ≤5% will have a rare condition. It should also be noted that 30% of children will often never receive a true diagnosis, and the illness will resolve before testing can proceed.

Reviewer's Comments: FUO is a challenge for anyone who has been confronted by it. Dental treatment/abscesses are often a “stop” along a physician's diagnostic process, and dentists need to consider the constitutional health of the child as well as a thorough clinical and radiographic examination to aid the primary care physician in achieving a diagnosis (or at least ruling out an odontogenic cause). Odontogenic causes are particularly suspected by parents and physicians when there has been recent treatment, irrespective of the benign nature (eg, a fluoride treatment). (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Fever of Unknown Origin, Pseudo-FUO, Deconditioning, Diagnostics

Print Tag: Refer to original journal article

Assessing “Cultural Caries” in Mexican-American Children

Urban Mexican-American Mothers' Beliefs About Caries Etiology in Children.

Hoeft KS, Barker JC, Masterson EE:

Community Dent Oral Epidemiol 2010; February 10 (): epub ahead of print

Approximately 40% of surveyed Mexican-American caregivers do not know or are not sure of the cause of caries in their children.

Background: Children living in poverty and children of Mexican-American descent have been listed as particularly susceptible to dental caries. *Healthy People 2010* listed 43% of all Hispanic children 6 to 8 years old as having untreated caries. Likewise, a California-based oral health survey found 32% of all Latino children aged 0 to 11 years with untreated caries. Few studies have looked at parental knowledge of caries etiology, and even fewer have looked at this with respect to the Latino community.

Objective: To evaluate what low-income, urban, Mexican-American mothers believe to be the causes and behaviors that determine caries in their children.

Methods: Participants were primary caregivers of children ≤10 years of age. A conscious effort was made to ensure that the participant’s youngest child would be no older than 5 years. Caregivers were also first- or second-generation immigrant caregivers from Mexico. Participants were interviewed by a bilingual staff member, and 3 basic questions were assessed — (1) Why do you think your child has caries? (2) What caused the caries? (3) Why do you think your child does not have caries?

Results: Data were analyzed from 48 Mexican-American mothers with a mean age of 31 years. There were a mean of 2.5 children per family, with 89% participation in the Women Infant and Children nutrition supplemental program funded by the federal government. The main reasons cited for caries were candy/juice consumption (85%), poor oral hygiene (65%), and bottle use (52%). It is of interest that 40% of caregivers did not know the causes of their child’s caries or were not sure. Some mothers reported identifying candy as a problem, and replaced it with ice cream sandwiches. Approximately 96% of the mothers felt oral hygiene issues were related to behavioral problems of their children, with only 4% mentioning their own lack of effort.

Reviewer's Comments: This study reinforces that there are cultural components to oral health care, and culturally appropriate anticipatory guidance needs to be part of the dental visit. (Reviewer-S.Thikkurissy, DDS, MS).

Keywords: Parental Beliefs, Cariology, Mexican-Americans

Print Tag: Refer to original journal article

Little Evidence to Support Stopping Anticoagulant Therapy

Frequency of Bleeding Following Invasive Dental Procedures in Patients on Low-Molecular-Weight Heparin Therapy.

Hong CHL, Napeñas JJ, et al:

J Oral Maxillofac Surg 2010; February 8 (): epub ahead of print

Postoperative dental bleeding complications occur in approximately 7% of patients undergoing LMWH therapy.

Background: Low-molecular-weight heparin (LMWH) acts by binding to antithrombin and inactivating pro-coagulatory serine proteases. It is commonly used for venous thromboembolism prophylaxis. It is favored over unfractionated heparin for several reasons, which include fewer documented bleeding complications, longer plasma half-life, higher bioavailability, and a predictable dose-response to name a few. When a patient presents with a dental need, such as extraction while on LMWH therapy, the physician is often consulted to assess if there is a need to alter therapy. Previous dental studies have cited that bleeding events postoperatively in these patients can largely (98% of the time) be controlled by local measures.

Objective: To evaluate the frequency of postoperative bleeding events following invasive dental surgery in patients on LMWH therapy.

Methods: Patient charts were retrospectively assessed if the patient was on LMWH therapy for deep venous thrombosis prophylaxis or treatment or as bridging therapy during warfarin discontinuation. All patients had a LMWH dose within 12 hours of an invasive dental procedure. The primary outcome measures were documented postoperative bleeding at bedside, a bleeding episode for >24 hours, requirement for additional hemostatic measures postoperatively, requirement for blood product postoperatively, a documented return to the dental clinic for postoperative bleeding, and a documented telephone call to the dental clinic for postoperative bleeding.

Results: Data were analyzed from 41 patients with a mean age of 48 years. Fifty percent of the procedures involved single tooth extraction. Postoperative bleeding complications occured in 3 patients (7%). The international normalized ratio (INR) for all 3 patients was within therapeutic levels (1.6 to 2.4).

Conclusions: The risk of prolonged bleeding after dental extractions was low to negligible.

Reviewer's Comments: This study replicates what is becoming more understood, which is that there is little evidence to support stopping anticoagulant therapy prior to dental treatment. The patient is often at greater risk for a thromboembolic event as opposed to abnormal postoperative dental bleeding. A distinct risk-benefit discussion needs to occur between the dentist and physician managing the patients bleeding disorder. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Oral Surgery, Bleeding Disorders, Low-Molecular-Weight Heparin

Print Tag: Refer to original journal article

Who Is Responsible for Knowing About Infective Endocarditis and Dentistry?

Knowledge and Practices of Dentists in Preventing Infective Endocarditis in Children.

Coutinho AC, Castro GF, Maia LC:

Spec Care Dent 2009; 29 (July/August): 175-178

Thirty-three percent of dentists refer their patients to a cardiologist for an infective endocarditis prescription.

Background: There has been speculation that the transient bacteremia associated with some dental treatments may be an etiologic factor for infective endocarditis (IE). Typically, the bacteremia is cleared within 10 minutes, although there is concern that this is altered in patients with deficient cardiac function.

Objective: To survey dentists who care for children and adolescents with cardiac conditions and to determine their knowledge and practices.

Methods: All participating dentists were from 2 public hospitals where children with special health care needs and cardiac illness are referred to for dental treatment in Rio de Janeiro. Participants were asked a series of 12 open-ended questions, and the answers recorded through a semistructured interview.

Results: Data were analyzed from 21 dentists, of which 12 regularly cared for children with complex medical (including cardiac) needs. When asked about conditions associated with the highest risk of IE occuring, 86% of respondents cited congenital heart disease, rheumatic fever, and prosthetic heart valves. A total of 33% of respondents said they referred their patients to cardiologists for the IE prescription. Another 33% said they followed the American Heart Association (AHA) guidelines regarding prophylactic antibiotics (specific antibiotic and dosage). Most respondents (52%) felt that their patients were informed of the need for IE coverage by their cardiologists.

Conclusions: There was disparate and sometime inadequate knowledge of the management of IE, specifically with respect to dental procedures, which are high risk.

Reviewer's Comments: While small in size, this study does reinforce a couple of issues that come up in clinical practice. If a cardiologist recommends IE coverage, irrespective of the AHA guidelines, it is incumbent on the dentist to follow the cardiologist's recommendation. Dentists do not have the knowledge of potential nuances in cardiac function, and, in my opinion, they do not have a litigious leg to stand on if they go against a cardiologist and an adverse event occurs. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Infective Endocarditis, Antibiotic Prophylaxis, Prevention

Print Tag: Refer to original journal article

When Parents Teach Physicians -- Food Hypersensitivity/Allergy

New Item on Pediatric Menu: Food Allergy.

Voelker R:

JAMA 2010; 303 (February 10): 497-498

Twenty percent of physicians do not appear to know that egg allergy impacts a child's ability to receive vaccinations.

Background: Ruchi Gupta, MD, MPH, an assistant professor of pediatrics at Northwestern University, came across a child who had a particularly refractory case of eczema that would not resolve. Following high-dose steroid cream administration and consultation treatment by a dermatologist, Dr. Gupta comments that the mother noted that the child's eczema cleared up when she switched to an egg-free diet. Upon allergy testing, the child demonstrated a positive allergy to several food items.

Objective: To assess physicians' overall understanding of food allergy.

Methods: A mixed survey method employed 46 validated items to assess knowledge, diagnosis, treatment, and triggers, as well as stigma, associated with food allergies.

Results: Data were analyzed from 407 pediatricians and family physicians. Surprisingly, 20% of respondents did not know that egg allergy impacted a child's ability to receive vaccinations. Eighty-eight percent of respondents thought that chronic nasal problems were a symptom of food allergy. Also of interest is that 78% of physicians felt inadequately trained to care for patients with food allergies, and nearly three-quarters (72%) felt uncomfortable interpreting laboratory tests used to diagnose food allergies.

Reviewer's Comments: This article was interesting for 3 reasons (2 of which are "between the lines"). As noted in the beginning, when Dr. Gupta and the dermatologist ended up trying high-dose steroid creams, it was the mother who began an exclusion diet. Parents of children with food sensitivities are often more attuned to changes than the physician. The core of the article demonstrates the lack of knowledge among family practice and pediatric practitioners in regard to food allergies. In conjunction with this, training standards are critical; it is unlikely that a physician NOT trained to diagnose potential food hypersensitivity will pick this up AFTER residency. As the prevalence of food hypersensitivities/allergies increase, it is incumbent on health-care professionals to understand nuances in diagnosis and treatment. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Food Allergy, Dermatologic Disorders, Public Health, Eggs, Vaccinations

Print Tag: Refer to original journal article

In-Hospital Nosocomial Infections Are Frequent, Potentially Lethal Events

Nosocomial Infections in Brazilian Pediatric Patients: Using a Decision Tree to Identify High Mortality Groups.

Lopes JMM, Goulart EMA, et al:

Braz J Infect Dis 2009; 13 (April): 111-117

Invasive procedures and the number of antibiotics used are associated with NI-related deaths.

Background: Nosocomial infections (NI) (those that occur in hospital-admitted patients and are related to therapy or admission) as defined by the Centers for Disease Control, are a major problem in Brazil.

Objective: To prospectively identify predictive factors associated with NI-related deaths (NIDs) in pediatric patients.

Methods: The treatment cohort was identified at a large public tertiary pediatric hospital in Brazil that serves a community of >2 million people. All patients included were cared for by infectious disease/pediatric attending physicians and/or residents. The variables studied included time from admission to death/discharge and demographic/infection-related variables.

Results/Conclusions: Data were analyzed from 754 patients, who presented with 1,174 NIs for a rate of 1.6 per patient. The most common admitting diagnoses were meningitis (26%) followed by pneumonia (11.5%). A total of 38 patients (5%) had a NID. The rate was 23% in patients in the pediatric intensive care unit (PICU). The 2 factors that proved to be most predictive of NID were an invasive procedure, which was associated with a 3.8 times greater likelihood of dying from an NI, and ≥2 antibiotics used to treat an NI, which was associated with a 3.1 times greater likelihood of dying from a NI. A total of 87% of patients with NI were <1 year of age.

Reviewer's Comments: NIs are one of the leading causes of death in U.S. hospitals. It was interesting to note that the factors (invasive procedures and ≥2 antibiotics) could realistically be associated with aggressive or refractory infections and conditions. (Reviewer-S. Thikkurissy, DDS, MS).

Keywords: Nosocomial Infection, Death, Pediatric Patients

Print Tag: Refer to original journal article