

Poster Communications

1. LONGITUDINAL STUDY ON DEVIATIONS IN THE ERUPTION OF NON-ERUPTED MANDIBULAR SECOND PREMOLARS

Aparicio Calvo A., Riobos González M.
Universidad Alfonso X El Sabio. Madrid

Introduction: The second lower premolar is, according to the chronology of eruption, the tooth that takes the longest to change over and erupt into the mandible. This may lead to complications due to a lack of space in the arch leading to overcrowding, deviation or impacted teeth. The deviations tend to occur in a distal direction to the tooth, and atypical resorption of the corresponding primary molar will occur. It is unknown if the causes are local or genetic.

Objective: To study the deviation frequency of the lower second premolar, due to sex and age, in order to obtain a valid diagnostic pattern for pediatric dentists and orthodontists.

Material and method: An observational retrospective cross-sectional study was performed using panoramic x-rays. Some 725 patients were chosen who were aged between 7-11 years, and who had attended the UAX University clinic during the year 2016.

Results: The mean, ranges and the standard deviations were calculated. The variables chosen were deviation of the second premolar, dental treatment carried out in the corresponding primary molar, and sex. Some 84.14% of the subjects did not show any eruption deviation as opposed to 15.86% who did have a deviation of one or two of the mandibular second premolars.

Conclusion: The genetic theories have not been demonstrated in relation to the deviation in the eruption of the lower second premolar. Evidence based dentistry has shown that pulp treatment on primary molars can lead to cell changes in the periapical region which can disturb the eruption line of the premolars. Monitoring by X-ray is recommended in order to prevent possible eruption disturbances leading to surgical and/or orthodontic treatment.

2. HUMAN BITE INJURIES: PRESENTATION OF A CASE REPORT INVOLVING AN ORTHODONTIC APPLIANCE

Azanza Santa Victoria N.1, Montejo Acosta M.1, Celaya Azanza P.2

¹*Osakidetza-Centro de Salud de Irún. Irún, San Sebastián.*

²*Hospital Universitario Puerta de Hierro Majadahonda. Madrid*

Introduction: Injuries due to human bites lead to soft tissue infection. The degree of morbidity can differ as can the reper-

cussions. These can be accidental, self-inflicted or unintentional. Among self-inflicted wounds we will find paronychia due to nail biting or digital sucking. Among the intentional injuries some of the more serious will be those that arise from a fist and that typically affect the third and fourth MCP joint of the dominant hand. These arise as very small traumatic lacerations (up to 15mm), but they are highly susceptible to infection due to the close proximity of the joint to the skin. Frequently septic arthritis and osteomyelitis will arise. Bites to the hand should never be considered minor.

Objectives: The aim of this article is to report an accidental human bite in a boy aged 12 years that arose as a result of a traumatic injury, when his hand caught the orthodontic appliance of a companion, which evolved with serious complications.

Material and method: A boy aged 12 years suffered an injury to his right hand on accidentally hitting the mouth of a school friend who was wearing an orthodontic appliance. His hand and the other boy's mouth were hooked together in such a manner that they had to be taken to the accident and emergency department. It was several hours before they were separated and this further complicated the case. The patient had to be admitted due to cellulitis of the right hand, and he was not discharged until a week later.

Discussion: Human bite injuries when infected produce inflammation in less than 12 hours and, if not treated, they progress rapidly within 24 to 48 hours into a well-defined condition. In this case of ours, what was decisive was the number of hours that passed between the child going to hospital and when he was finally treated. The case was not solved either in conjunction with an orthodontist which also proved crucial. These injuries should be treated swiftly in order to avoid further complications.

Conclusions:

- Human bites injuries, especially those that arise on the hand should be given serious consideration.
- Orthodontic dentists should always be within a contact channel or able to attend these emergency cases themselves.

4. POSSIBLE PSYCHOSOMATIC ETIOLOGY AND PATHOGENESIS OF BRUXISM IN CHILDREN AND THE RELATIONSHIP WITH SENSITIVITY AND ANXIETY

Barrasso V., Blay Palacios C., Vivas Prado M., Albert Gascò L., Sanchís Forés C.

Universidad Católica de Valencia. Valencia

Introduction: Bruxism is a parafunctional activity consisting in the clenching or grinding of the teeth which has

a high prevalence in both children and adults. There is now consensus regarding the multifactorial etiology. In adults, the role of stress in bruxism has been accepted. However, the etiology behind the psychological factors remains one of the most debated issues in childhood bruxism.

Objectives: To evaluate whether bruxism in children may be a psychosomatic disorder related to general anxiety and anxiety sensitivity; to assess if there is a relationship between bruxism and the presence of other parafunctional habits.

Materials and methods: An observational, analytical study was conducted with a "case-control" design. The sample consisted of 40 patients, 20 cases with bruxism and 20 controls without bruxism, who were aged between 6 and 12 years and who had come to the clinics of the Catholic University of Valencia for treatment. The diagnosis of bruxism was made according to the criteria of the American Academy of Sleep Medicine (AASM). Data collection was done using the clinical examination of the patients by the dentist (that recorded dental wear and habits), questionnaires were completed by the parents and by the children using the Multidimensional Anxiety Scale for Children (MASC) and Child Anxiety Sensitivity Index (CASI).

Results: A statistically significant relationship was found between bruxism and the presence of various parafunctional habits such as lip sucking, onychophagy, tongues with tooth marks and the habit of sucking or biting objects. Concerning anxiety sensitivity, described as fear of anxiety symptoms, significantly higher levels were observed in the group of bruxist children ($p = 0.038$). No significant differences were found in either of the groups for danger anxiety ($p > 0.05$), but significant differences were found for separation anxiety ($p = 0.007$), with levels being significantly higher in the bruxist group. Somatization anxiety and social anxiety levels were higher in the group of bruxists, but without statistically significant differences ($p > 0.05$).

Conclusions:

- Among the psychological predictors studied, sensitivity to anxiety may be a predisposing factor for the development of bruxism.
- The relationship observed between bruxism together with the presence of other oral habits reflects the need to pay attention to anxiety and child stress.

5. CHILD ABUSE: DETECTION AND ACTION IN THE DENTAL OFFICE

Bernal Castell M., Coello Suances J., Ribas Pérez D., Castaño Seiquer A.

Universidad de Sevilla. Sevilla

Introduction: Child abuse according to the WHO can be defined as any form of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment, commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity. The

incidence of child abuse cases is very difficult to pinpoint, but it is considered that only 10% of the actual cases are reported. International studies emphasize the role of the dentist in the detection of abuse, since orofacial trauma is present in 50-75% of child abuse cases.

Objective: To carry out a literature review of oral and craniofacial signs and symptoms of a child who has suffered physical, sexual and/or neglect; and, to analyze in addition the role of the dentist in the detection and reporting to the authorities of child abuse cases.

Materials and methods: A search for articles was performed in the electronic database of Medline up until January 31, 2017. The action protocols of the Spanish State and Unified Registry of Child Abuse were reviewed.

Results: Children can be mistreated at different levels: physical abuse will in most cases causes skin wounds and/or injuries to the head, face and neck. In sexual abuse, the child may have oral and perioral lesions due to orogenital contact. Lack of care, including dental neglect, is understood to be the lack of oral health in the child that will lead to disturbances in nutrition and development. Also, emotional abuse will trigger psychosocial disorders in the child. The suspicion of any situation of abuse should be notified and certainty is not required. Indicators of a lack of protection and/or an offence must be reported to the authorities, through different channels: by filling in a Detection and Reporting Form for Child Abuse, or by submitting a report to the Courts dealing with Health Care and Injuries.

Conclusions: The dentist must be aware of the increasing existence of this problem and that there is a real possibility of diagnosing and reporting this in the dental office. More training is required in order for dentists to know how to act in these situations.

6. REVASCULARIZATION PROTOCOL IN THE PERMANENT DENTITION: A CASE REPORT

Blázquez Molina P., Zorita García M., Granja Pacheco B., Roldán Calderón M., Riobobos González M.

Universidad Alfonso X El Sabio. Madrid

Introduction: Revascularization is the current procedure for necrotic teeth with an immature apex, described as endodontic therapy, which is an option for more conservative clinical management whereby the induction of stem cells of the periapical papilla of a tooth creates bleeding inside the root canal. This becomes a stable clot which, over time, allows the root to mature physiologically, and the duct walls to thicken.

Case report: A 6-year-old patient was presented as a result of an abscess by the apex of tooth 2.1. The patient reported a traumatic injury to the tooth a long time previously. The thermal vitality tests were negative. The x-ray examination revealed a radiolucent area by the apex. Revascularization treatment of tooth 2.1. was decided on by stimulating a blood clot in the apical tissues around the tooth, after disinfecting

the root canal with sodium hypochlorite and EDTA in alternation. A bi-antibiotic paste of ciprofloxacin and metronidazole was placed for two weeks. MTA was finally placed in the coronal third and the definitive restoration was finally performed.

Comments: The first authors to apply this technique were Iwaya SI in 2001, and Branchs F. and Trops M. in 2004. Articles were reviewed in which the canal was irrigated with CHX (chlorhexidine), although it has been observed that this can be detrimental to stem cells. The technique continues to be performed following the same protocol described in 2001.

Discussion: In the latest studies that have been published, calcium hydroxide and tri-antibiotic paste have been replaced as a filler material between stages, by a bi-antibiotic mixture. However, its effectiveness with regard to calcium hydroxide has not been demonstrated, and the latter is being used once again as interim material between treatment stages. The aim of this revascularization technique is to restore the physiological function of the tooth so that complete root development occurs.

7. ARE THERE RELIABLE INDICATORS IN CHILDHOOD TO PREDICT MALOCCLUSION?

**Cabezuelo Escribano M., Jordá Fiol M.,
Gatón Hernández P., Ruiz de Castañeda E.,
Delgado Baena P.**

Mit Dental. Barcelona

Introduction: Many authors agree that prompt action should be taken when certain malocclusions are detected at an early age. Therefore, it is essential to be familiar with and identify the factors that determine a malocclusion arising in order to know how and when to act to reduce, and even avoid, the risk of more aggressive treatment during adulthood.

Objectives: To establish predictive parameters of possible malocclusions detected at an early age.

Material and method: A literature review (Medline, Cochrane, PubMed) of articles published during the last ten years on the diagnosis and early treatment of craniofacial development disturbances was performed. Systematic reviews, meta-analyses, and randomized clinical trials have been included. Publications of clinical cases and opinion pieces have been excluded.

Results: Parameters evaluated:

- Neuromuscular function:
 - Breathing.
 - Lip hypotonicity.
 - Otorhinolaryngology problems: deviation of the nasal septum, tonsillar and vegetation hypertrophy
 - Atypical swallowing.
 - Forward lingual rest position.
- In the vertical plane. Growth pattern. Cephalometric values.
 - Mandibular angle.
 - Facial axis.

- Sagittal plane. Skeletal class.
 - NMA.
 - Facial convexity.
 - Transverse plane.
 - Angles of the upper and lower incisors with regard to bone base.
 - Soft tissue profile.
- Conclusions:*
- Abnormal function can lead to or aggravate malocclusions.
 - A vertical growth pattern can lead to openbite as well as an increase in the lower third of the face.
 - Sagittal plane. Skeletal class:
 - Class II: at a young age, unless there is a risk of traumatic injury, the correction can be delayed until before the pubertal growth peak.
 - Class III: most authors agree that this should be treated as soon as possible, especially if accompanied by maxillary compression that leads to the functional deviation of the mandible.
 - Transverse plane. A non-oval shape or a lack of coordination between both arches could be indicative of a need for early treatment.
 - The incisors can indicate if there is compensation in the malocclusion or if we should decompensate in order to treat it.
 - If the profile worsens with the treatment indicated, another solution should be considered.
 - These last parameters aim to provide a quick guide so that the clinician can detect problems as soon as possible, and for the child to be monitored during the growth period, regardless of whether it is the right period or not for treatment.

8. AMELOGENESIS IMPERFECTA: A STRUCTURAL, FUNCTIONAL AND ESTHETIC DISORDER

Couto C., Silva D., Monteiro C., Seabra M., Figueredo A.
Universidade Católica Portuguesa. Lisboa

Introduction: Amelogenesis imperfecta (AI) is a structural enamel disorder of a genetic nature, in which enamel during tooth development forms abnormally. The disease is more common in children and it can manifest in different ways, so early diagnosis is extremely important in order to avoid problems in the future. Through the presentation of a case report, the symptoms of this pathology are highlighted.

Case report: A 10-year-old female patient, with no systemic diseases, was referred to a pediatric dentistry clinic following the use of an occlusal splint to control parafunctional habits. She was diagnosed with amelogenesis imperfecta, and in addition to tooth sensitivity, the main concern was the aesthetic appearance of the teeth, particularly her smile. After taking her medical history, the girl's mother reported that she

thought a close family member had similar dental health. During the examination of the oral cavity, the appearance of the tooth surfaces was similar: opaque white teeth with yellowish-brown pigmentation. The level of oral hygiene, based on plaque index and bleeding, was satisfactory. The presence of interincisal diastemas (11, 21, 12, 22) was observed as well as black pigmentation on the palatal surfaces of the mentioned teeth. A loss of the vertical dimension was evident, because the enamel of the crowns of the first and second molars showed considerable wear. These were restored with composite, using acetate crowns. Treatment was started on the upper first molars, to correct the loss of the vertical dimension previously mentioned. After this, the aesthetic reconstruction of the central and lateral incisors was carried out.

Discussion: Studying and understanding dental disorders is of paramount importance, since early detection can significantly change the prognosis of the teeth affected. Moreover, it is the role of general dentists to identify any deviation from normality, to evaluate the possible consequences, and to refer the child as soon as possible for a pediatric dentistry consultation so that the doctor responsible can intervene and act as a member of a multidisciplinary team.

9. EPIDEMIOLOGICAL STUDY ON DENTAL CARIES AMONG A SCHOOL POPULATION IN THE MEXICAN STATE OF TABASCO USING ICDAS CRITERIA

Del Campo Rodríguez Á., Montiel Company J., Pascual Moscardó A., Almerich Silla J.
Universitat de Valencia. Valencia

Objective: To evaluate the oral health status of the school population of the State of Tabasco, Mexico, determining dental caries rates and prevalence in schoolchildren aged 6, 12 and 15, using ICDAS criteria.

Material and method: A descriptive and observational cross-sectional survey of primary (25), and secondary schools (29) in the 17 municipalities of the State of Tabasco was carried out. The total number of students studied was 1,500, (500 per age group) of which 762 (50.9%) were male and 738 (49.1%) were female. The examinations in the study were carried out with a single standardized examiner who used the ICDAS criteria (Kappa 0.91), and the field work was carried out between October 2011 and May 2012.

Results: In the 6-year cohort the dft index (ICDAS 1-6) was 3.52 and the dft (ICDAS 4-6) was 1.87. In the 12 and 15 year cohort we obtained a DMFT index (ICDAS 1-6) of 3.27 and 5.39, while with the same index and (ICDAS 4-6) we obtained 0.83 and 1.78 respectively. With regard caries prevalence, which includes all the lesions detected using the ICDAS criteria, in the 6-year-old children this was 70.4%. In the 12-year-olds, this percentage was very similar at 71.8%, and with 15 years-olds the highest prevalence obtained was 84.8%. Equivalent values between the WHO diagnostic cri-

teria for caries and ICDAS was found as from grade 5, which is when only severe caries is considered (ICSAS grades 5 and 6).

Conclusions: A low socioeconomic level is related to a higher index of carious lesions. There is a linear trend between the prevalence of caries and social class, as it increases as social class decreases. The epidemiological trend of caries in the State of Tabasco in the period between 2001 and 2011 is downward. Low socioeconomic status is related to a higher presence of carious lesions. The ICDAS diagnostic criterion gives us relevant information on the presence of early stage caries and it could provide a new approach for the health programs and the early detection and treatment of these lesions.

10. CLAPO SYNDROME. WHAT CAN WE EXPECT TO FIND IN THE ORAL REGION OF CHILD PATIENTS? A SERIES OF CASES

Del Piñal Luna I.¹, Muñoz Caro J.², Vivero Couto L.¹, López Jiménez A.¹, Planells del Pozo P.¹

¹Universidad Complutense de Madrid. Madrid. ²Hospital Universitario La Paz. Madrid

Introduction: CLAPO syndrome is a syndrome characterized by capillary malformation of the lower lip, lymphatic malformation of the face and/or neck, asymmetry and partial or generalized overgrowth.

Overgrowth syndromes consist of a genetic disorder in which there is an abnormal increase in body size or a part of the body, which is sometimes observed at birth. Within these syndromes we will find Sotos syndrome, Beckwith-Wiedemann syndrome, Weaver syndrome and Proteus syndrome. The most characteristic lesion of this syndrome is the capillary malformation present in the lower lip that is located by the midline. It is a symmetrical lesion that usually continues along the mucosa.

Objectives: a) To get to know the general characteristics of the syndrome; b) to investigate the possible repercussions of CLAPO syndrome at an oral level in children; and c) to investigate the effects of CLAPO treatment in child patients.

Material and method: A literature search on CLAPO syndrome was carried out in databases such as PubMed, MEDLINE and DIALNET. Keywords: "Clapo syndrome", "venous malformations", "glossectomy", "lymphangioma", "overgrowth".

Results: The literature review allowed us to carry out a detailed study of the entity, and the objectives set were met. CLAPO syndrome was described by López-Gutiérrez and Lapunzina in 2008 in six unrelated patients. Of these five were children and one was an adult. The patients had no mental or developmental disability, nor was there a family history. No dental disorders have been reported in the literature, but in the cases described there is early eruption in these patients, open bite due to macroglossia, oral breathing and pseudo class III malocclusion.

Conclusions:

- Carrying out a diagnosis and early treatment of the macroglossia and the aesthetic and functional changes that this entails is extremely important.
- The pediatric dentist should be familiar with the possible complications derived from both the surgical treatment and the syndrome itself and, together with the orthodontist and maxillofacial surgeon, a multidisciplinary team should be formed in order to create a treatment protocol that is suitable for the patient.
- There are currently no oral disturbances described in the literature. Further long term studies are necessary with a larger sample size in order to find out exactly what these are.

11. TRANSVERSE MALOCCLUSIONS IN CHILDHOOD

Delgado Baena M., Cabezuelo Escribano M., Jorda Fiol M., Gatón Hernández P., Ruiz de Castañeda E.

Mit Dental. Barcelona

Introduction: During daily practice, pediatric dentists frequently encounter problems with transverse coordination of both arches. In addition, these problems may also be associated with sagittal or vertical, skeletal or dental disturbances. Early treatment of transverse disorders should be carried out because there is a high probability that a functional deviation will turn into true mandibular asymmetry.

Objectives: a) To differentiate if the origin of the transverse problem is dental, skeletal or mixed, and to also rule out a state of compensation progressing without a crossbite; b) to clarify the different treatment options for each diagnostic criterion; and c) to provide pediatric dentists with the vision needed to treat patients at an early age.

Material and method: With regard to 5 clinical cases of skeletal constriction and 5 clinical cases of dentoalveolar constriction we carried out a literature review of articles published in the last 5 years on the diagnosis and early treatment of transverse malocclusions.

Results: According to the conclusions from the literature review: with regard to the WALA method, the results of the measurements are reliable. Transverse malocclusions due to dentoalveolar constriction can be corrected with a Hawley plate with an expansion screw or a quad-helix, among others; and skeletal problems with an expander to achieve the opening of the midpalatal suture.

Conclusions:

- A clinical examination and analysis of models and photographs can help diagnose whether the constriction is dental, skeletal or mixed.
- The WALA ridge is the reference that allows finding out if there is or not dentoalveolar constriction.
- The treatment of dentoalveolar constriction requires an expansion apparatus, and the treatment of a skeletal con-

striction an expander that allows opening of the palatine suture.

- Pediatric dentists play a fundamental role in the early diagnosis and treatment of transverse malocclusions.

12. HIPERGENESIS ASSOCIATED WITH GENETIC FACTORS. A REPORT OF TWO CASES

Díaz Álvarez M., Pipa Vallejo A., Gutiérrez Peña T., Olay García S., Escobedo Martínez M.

Universidad de Oviedo. Oviedo

Introduction: Hypergenesis, also called hyperdontia, is defined as the presence of an excessive number of teeth. The prevalence ranges from 0.5% to 3% of the population, and it is more frequent in men than in women (2: 1). In relation to their position, 45 to 67% of cases are located in the anterior maxillary region (mesiodens) followed by the paramolars (40%), then the peridens (8-10%) and finally by teeth in the mandibular incisal region. The etiology is essentially genetic and related to disorders in the embryonic stage during proliferation of the dental lamina. This anomaly usually affects a single tooth, although sometimes multiple teeth may be affected as part of different syndromes. The most frequent complications that arise are dental malpositions and malocclusions, as well as follicular cysts or neuralgia if the teeth fail to erupt. The clinical case is presented and the action protocol with regard to two patients of the same family (siblings) with mesiodens and peridens.

Case report: Two patients, a girl and a boy, aged 8 and 16 years respectively, with no relevant medical history, presented at the university clinic with a mesiodens (girl) erupted towards the palate, which was causing a dental malposition in the anterior superior region of the maxilla. The male had two peridens forming in the mandibular premolar region with an apparently normal radiographic anatomy. The girl underwent extraction of the mesiodens to avoid a worsening of occlusion. The boy underwent extraction of tooth 4.5 to allow eruption of the peridens by means of an orthodontic traction device. The peridens on the left half of the mandible will require surgical extraction.

Discussion: Although the treatment of this pathology must be individualized, extraction is usually the most common form of treatment for hypergenesis in this area of ours.

13. SCLERODERMA: A TYPICAL CASE OF LINEAR MORPHEA WITH A NINE YEAR FOLLOW-UP

Díez Mazo P.¹, Muñoz Caro J.², López Arrastía C.¹, Gómez Clemente V.¹, Planells del Pozo P.¹

¹Universidad Complutense de Madrid. Madrid ²Hospital Universitario La Paz. Madrid

Introduction: Linear morphea is a localized type scleroderma. Scleroderma is a disease that belongs to the group of diseases considered as rare. The disease affects the connective tissue producing atrophy of the skin and adjacent tissues, an inflammatory processes and microvascular disturbances. Depending on the degree and the areas affected, it is classified into systematic or localized. Scleroderma or linear morphea appears as a hard, pigmented and atrophic lesion that may be present throughout the body. Epidemiologically, it is more common in children than other types of localized scleroderma, such as plaque which is more common in adults. Therefore, pediatric dentists should know that it can manifest orally as atrophy and stiffness in the skin, mucous membranes, tongue and palate. It also usually results in reduced gingival insertion and gingival recession. Overcrowding, jaw disturbance such as microstomia, and limited mouth opening are also common in this disease.

Objectives: To investigate the oral disturbances that characterize the pediatric patients with linear morphea, by means of a literature review and a clinical case with a six year follow-up.

Material and method: A literature search related to linear morphea and oral disturbances was performed. The electronic databases Medline, Dialnet, PubMed and Catálogo Cisne of the Universidad Complutense de Madrid were used.

Results: The case of a nine-year-old male patient with linear morphea who had been under observation from the age of three is presented. The patient had characteristic lesions on the forehead. During the oral examination, the possibility that some of his dental disorders were related to the disease was evaluated. The patient had generalized delayed eruption. The delayed eruption was more obvious in the second quadrant, just where the scleroderma line descended to the second quadrant. According to the literature evaluated, there have been no cases involving disturbed eruption.

Conclusion: Linear morphea may present with disturbances to the teeth and structural facial bones leading to functional as well as aesthetic problems in child patients. Pediatric dentists should thoroughly monitor dental replacement and other dental/oral disorders. Delayed eruption in our patient, either general or confined, could be caused by the formation of linear scleroderma.

14. RELATIONSHIP BETWEEN BREASTFEEDING AND CARIES IN THE CHILD POPULATION

**Enrech Rivero J.¹, Gracia Cemborain I.¹,
Martín Olivera E.¹, Arenas González S.²**

¹Hospital San Rafael. Madrid. ²Universidad Alfonso X El Sabio. Madrid

Introduction: Breast milk is the best food a mother can offer her newborn child. The scientific basis for breastfeeding is overwhelming. However, there is controversy regarding the influence of breastfeeding and the appearance of early child-

hood caries (ECC), defined as the presence of one or more carious lesions (cavitated, non-cavitated), missing teeth due to caries, or filled tooth surface in any primary tooth in children younger than 71 months. Dental caries is now considered a serious world health problem affecting school aged children.

Objectives: *Principal objective:* to carry out a systematic review of the current scientific evidence related to the association between breastfeeding and the risk of developing ECC. *Secondary objectives:* to find out if ECC can be prevented, to define if there is a right time for weaning, and to investigate if there are benefits in addition to feeding the newborn.

Material and method: Filters were used for the inclusion of articles: publications in recent years in high impact medical and dental scientific journals. Databases consulted: PubMed, Medline, Cochrane, Embase, Sapiens Library, Fistera.

Results: Most authors argue that ECC is associated with breastfeeding when the pattern of consumption has certain characteristics, such as demand feeding, a large number of feeds a day, prolonged breastfeeding and, above all, frequent breastfeeding and at night, leading to the accumulation of milk in the teeth, which combined with reduced salivary flow and a lack of oral hygiene, can lead to cavities.

Conclusions: The most effective approach to ECC control is prevention, which begins with the pediatrician giving parents guidelines to follow. The best food for a newborn is breast milk. There is no right time for weaning, so exclusive breastfeeding should be encouraged for the first sixth months, and it can be maintained for up to two years if supplemented with food. Breastfed children during the first 6 months show better physical and emotional development, good use of the orofacial muscles, proper development of the jaws and the establishment of correct swallowing habits. Since there is no evidence to support breastfeeding and the development of ECC, studies are needed that correlate breastfeeding with the development of ECC before issuing any public statement.

15. BISPHENOL AND ITS EFFECTS IN DENTISTRY

**Escudero Góngora M., Gil Martínez L., Roldán Alonso L.,
Reyes Ortiz A., García-Navas Fernández de la Puebla L.**
Universidad Alfonso X El Sabio. Madrid

Introduction: Bisphenol A (BPA) is the most common monomer used as a raw material for the production of various types of plastic, mainly epoxy resins and polycarbonate plastics (for over 50 years). Exposure to BPA can lead to changes in behavior, early puberty, diabetes and obesity, cancer, prostate problems, decreased sperm count, chromosomal alterations, brain damage, among others. Recently, as a precautionary measure, a trading ban has been enforced and baby bottles have been replaced by BPA-free polycarbonate. This ubiquitous compound appears to act in the human body much like female estrogens, even at very low concentrations. It is believed that BPA could be a (co) factor for developmental disorders.

Objective: To evaluate the toxicity of bisphenol A and its relationship with MIH syndrome (molar incisor hypoplasia), according to the published studies, in order to reveal its limitations in pediatric dentistry.

Material and method: A literature review on BPA that linked the publications and the possible effect on teeth was performed.

Results: In the field of Dentistry bisphenol is found in sealants and composites. Several studies have pointed to a possible relationship with MIH syndrome. The few scientific studies on the dental toxicity of BPA assure that the amounts released by composite restorations are within the toxicological safety limits (0.05 mg/kg). However, it is not necessary to reach the toxicological limits of certain chemical agents for there to be disturbances, especially in hormonal systems, as these have been shown to be biologically active at very low levels of concentration. With regard to pediatrics, some components released by the prolonged use of a pacifier may exert a negative influence on the development of dental enamel. In recent years, a ban on selling and importing polycarbonate baby bottles containing BPA has been established as a precautionary measure.

Conclusions: During polymerization, with the wear or erosion of the material used in dental therapy, substances are released into the mouth. The substances released by these materials can have an effect on living organisms, both locally and systemically. The biocompatibility of the composites is directly related to the amount of monomer to polymer conversions. For this reason, UDMA (urethane dimethacrylate) is currently being used to substitute BisGMA in composites.

16. TOOTH AVULSION IN THE YOUNG PERMANENT DENTITION. NEW TREATMENT APPROACHES

Estévez Arroyo B., Guerrero Ortiz F., Pozo Canales E., Rivas Pérez D., Mendoza Mendoza A.

Universidad de Sevilla. Sevilla

Introduction: Introduction: Avulsion is one of the most severe forms of dental trauma characterized by the complete displacement of a tooth from its socket. It amounts to 0.7-3% of traumatic dental injuries, with maxillary central incisors being the most affected (45.05%). As a result of an avulsion, the periodontal tissue and neurovascular bundle will suffer damage. Replanting the tooth into its socket is the treatment of choice. The prognosis depends mainly on the time that elapses until treatment, the means of conservation, maturity of the apex and possible infection. The main complications are: Ankylosis, external inflammatory root resorption and pulp necrosis.

Rationale: Despite the availability of several treatment options, it is estimated that the avulsed tooth is lost after four to six years of follow-up. Therefore, the intention of this literature review is to determine new protocols that address the possible complications mentioned, and future dental loss.

Objectives: a) *Principal:* to analyze the more recent literature to determine new therapeutic approaches for dental avulsion; and b) *specific:* to ascertain the feasibility and viability of the new treatments.

Material and method: The literature was selected after a search in the electronic databases of PubMed, Web of Science, Cochrane, with the following keywords: tooth avulsion, therapeutics, post traumatic, complications and immature replanted teeth. The research was limited to articles published in English in journals indexed to JCR 2016. Twelve articles were included in this review that met the inclusion criteria.

Results: Studies in humans support replantation as the treatment of choice. For an immature tooth with a necrotic pulp, apexification treatment prevails. There is evidence that shows that with up to 30 minutes of extraoral time, revascularization will achieve apical closure without complications, and that controlling intracanal infection is key in the prognosis. Animal studies show less signs of ankylosis or EIRR in the follow-up when laser diode or bisphosphonates (zoledronate and alendronate) are applied pre-implantation to the root surface and/or alveolar bed, after a dry extraoral period of up to 60 minutes.

Conclusions:

- Revascularization is possible in avulsed immature necrotic teeth after a short extraoral period and suitable preservation.
- In animals, pre-replantation diode laser therapy encourages the recovery of the periodontal ligament. However, this obscures the prognosis when applied post-replantation as the osteoclasts are overstimulated. The application of bisphosphonates reduces the occurrence of EIRR.
- More studies are needed.

17. DIAGNOSTIC EXACTNESS OF THE NEAR INFRARED CAMERA DIAGNOCAM IN PRIMARY MOLARS

Fernández Fernández L., Bolaños V., Briones M.

Universidad de Granada. Granada

Objective: The aim of this clinical study was to investigate the diagnostic accuracy of the near infrared camera Diagnocam in the primary dentition.

Material and methods: This study included the first visits made during the course of Integrated Clinical Services for Children at the Faculty of Dentistry of the University of Granada in the academic year 2016-2017, of patients with primary and mixed dentition, and with at least one point of contact of their primary teeth. A sample of 67 patients aged between 6 and 10 years was studied. In total, 790 proximal surfaces of primary molars, out of a possible 1008 were included in the analysis. A single operator performed the patient examination. Intraoral photographs of the dental arches were taken for verification and double determination. A Diagnocam exam-

ination was also performed and two bitewing radiographs were taken. The clinical status of the proximal surfaces was recorded according to the ICDAS II system. The Ekstrand coding system was used for the Diagnocam and the bitewing radiographs. In the ICDAS II system, level 3 of the lesion is equivalent to caries extending to dentin, ie, D1 in the Ekstrand code.

Results: The sensitivity and specificity of Diagnocam and of the clinical examination for the different diagnostic cutoff points were calculated. Regarding the presence of dental caries, code 3, the accuracy of Diagnocam was 73.2 (69.3-77.0)% and the clinical examination 69.0 (64.9-73.1)%.

Conclusions: This study could indicate that the near infrared camera could reduce the use of bitewing radiographs. More studies are needed in the primary dentition to support this.

18. MULTIDISCIPLINARY TREATMENT FOR LINGUAL FRENULUM DISORDER IN BABIES AND DURING INFANCY

Ferrés Amat E., Pastor Vera T., Rodríguez Alessi P., Mareque Bueno J., Ferrés Padró E.

Fundació Hospital de Nens de Barcelona. Barcelona

Introduction: Partial ankyloglossia is defined as a limitation of the possibilities of protrusion and elevation of the tip of the tongue due to the shortness of the lingual frenulum and/or the genioglossus muscles. The limitation of lingual mobility in neonates can lead to problems breastfeeding: pain-cracks-mastitis in the mother, poor weight gain of the infant and excessively long feeds. The limitation in lingual mobility during childhood and adolescence can cause disturbances in the bone growth of the orofacial structures and/or in the oral function of the child.

Objectives: To evaluate the effectiveness of the treatments performed on patients with ankyloglossia in the different age groups. To study ankyloglossia associated with suction disorders, phonetic disorders, disturbances of the stomatognathic system, orofacial dysfunctions and/or muscular imbalances.

Material and methods: A preliminary descriptive study was carried out on the effectiveness of the circuit established in our hospital for treating ankyloglossia in infants (0 to 6 months) with breastfeeding problems and in children (6 months to 14 years) with phonetic and/or dentofacial disorders over a period of time of one year.

Results: 171 babies with ankyloglossia associated with breastfeeding problems were treated: 111 boys and 60 girls. Three groups were established according to the treatment carried out: group 1 (n = 33) only breastfeeding sessions (BFS), group 2 (n = 50) myofunctional therapy (MFT) and counseling in BFS, and group 3 (n = 88) surgical intervention followed by MFT and BFS counseling. Coryllos grade

3 ankyloglossia was the most common finding (59.6%). Out of all the sample, there were improvements in the parameters that evaluated the effectiveness and comfort of breastfeeding. 101 patients with childhood ankyloglossia were treated who had phonetic disturbances, swallowing disturbances and/or growth disorders of the stomatognathic system growth, a total of 63 boys and 38 girls. The degree of ankyloglossia was improved in 29 (28.7%) patients (95% CI: 20.1%, 38.6%), and following the post-surgical orofacial rehabilitation a correction was achieved in 97 (96% %) patients (95% CI: 90.2%, 98.9%).

Conclusions: The multidisciplinary treatment of ankylosis recommends the use of stimulation exercises with myofunctional therapy and speech therapy before and after surgery to improve the tonicity and motor skills of the tongue musculature in the infant. This will also stimulate suction in the baby and counteract tissue retraction during healing.

19. SHORT LINGUAL FRENULUM IN A NEWBORN INFANT: ANKYLOGLOSSIA, DIAGNOSIS AND TREATMENT

Fraguas de San José L.¹, Salado Landete G.², Blázquez Molina¹, P.; Roldán Calderón³, L.; Reyes Ortiz, A.¹

¹Universidad Alfonso X El Sabio. Madrid. ²Clínica Landete. Madrid. ³Clínica Dental Roldán. Madrid

Introduction: Ankyloglossia is a congenital anomaly caused by the abnormal development of the tongue characterized by a short and rigid lingual frenulum, causing limitation of tongue movements, thus hampering the sucking reflex and causing numerous complications in both babies and mothers during breastfeeding. In most cases weight loss will occur in babies because of latching on difficulties, and breast pain in mothers may lead to cases of mastitis and premature weaning.

Objective: A review is presented, through the report of a case, which is focused on the diagnosis and surgical technique of ankyloglossia in newborn infants in order to prevent the disturbances and problems that arise.

Material and method: a clinical case is presented of a 4-month-old baby diagnosed using Hazelbaker's descriptive assessment tool, based on lingual appearance and function. Minimally invasive minor surgery was performed in the dental office with a scalpel and grooved probe.

Results: After treatment and surgery, multiple improvements and benefits were observed.

Conclusions: Pediatric dentists have the responsibility of performing intraoral examinations in infants as from birth, especially during the first six months of life for the correct and prompt identification and treatment of any possible pediatric oral condition. As we have seen, lingual frenectomy is an effective and safe procedure that can be performed in the consultation room with minimally invasive surgery, and which is very beneficial for both baby and mother.

20. RETRAINING OF LINGUAL POSITION AND POSTURE IN CLASS II MALOCCLUSION WITH OVERBITE

Frois J.¹, Esperancinha C.²

¹Universidad Internacional de Catalunya. Barcelona, España. ²Faculdade de Medicina Dentária. Universidad de Lisboa. Lisboa, Portugal

Introduction: In pediatric dentistry it is very important to have a diagnosis and treatment plan for every type of malocclusion, and looking for the etiology is essential. Poor posture and position of the tongue may be one of the etiological factors, which will affect the child's craniofacial development.

Case report: A case of a 7-year-old male patient with Class II division 2 malocclusion with overbite is presented. He had considerable myofunctional disturbances, such as a vertical chewing pattern and changes in speech. A functional orthopedic device called SN2 - Simões Network - Tongue Maintainer was used. A therapeutic change in mandibular posture was required with retro-rotation. The device releases the posterolateral lower teeth, encouraging vertical growth in the posterior region in order to correct the overbite. The patient used the device daily for approximately 20 hours for a period of 6 months, and he only removed the appliance for eating, oral hygiene and sport.

Comments: If the tongue is in a low position and thrusting forward, all the structures of the stomatognathic system will be disturbed, and the maxilla and mandible will not develop properly. There are cephalometric diagnostic methods that analyze the position of the tongue as well as functional orthopedic appliances for treatment. The devices used are for the retraining and elevation of the tongue to a higher position, with the upper part of the tongue on the palate and a correction of the lateral edges. This type of orthodontic appliance has the disadvantage of relying on patient cooperation as it is removable. However, it has many advantages, as it is comfortable, it does not cause any pain and it permits good oral hygiene.

Discussion: In only 6 months, the patient showed a significant improvement in overbite, and the pattern of mastication was performed with easier lateral-protrusive movements. There is still need for an additional treatment period of 12 months in order to improve and stabilize the correction. The patient will be sent to a speech therapist for phonetic correction, given the new and corrected shape of the jaw and position of the tongue.

21. FAILURE OF ERUPTION: THE CORRECT DIAGNOSIS FOR THE RIGHT TREATMENT

Fuentetaja I., Barbería E., Feijóo G., Velayos L., Villar C.
Universidad Complutense de Madrid. Madrid

Introduction: The term eruption failure was coined by Proffit and Vig in 1981 (1) to refer to the condition in which

the eruption of a non-ankylosed tooth is halted, totally or partially, due to a malfunction of the eruptive mechanisms, in patients with no other disorder, and without there being any physical obstacles in the path of eruption.

Case report: The patient was a 10-year-old male patient with no relevant medical history. In the initial oral examination, it was observed that he was in the first stage of the mixed dentition with restorations in 5.5, 6.4 and 6.5 and infection in 8.4, 7.4 and 7.5 for which composite fillings were planned. Of note was unerupted tooth 4.6. Given this finding, a periapical radiograph was taken confirming the existence of this unerupted tooth with an intraosseous location, despite the absence of an obstacle or the existence of ankylosis. After a differential diagnosis with ankylosis or mechanical retention (supernumerary, anomalous position of the tooth germ, lack of space, etc.), it was decided that it was the right time to perform the treatment. Of the different options, the choice was the conductive alveolotomy.

Comments: Deciding on the right time for performing the treatment is for many authors essential, and this will depend on the age of the patient, the stage of the dentition, the amount of root development of the affected tooth, the severity of the infraocclusion and the number of teeth affected (2). In the literature we will find among the therapeutic options for similar cases, observation for a prudent amount of time, waiting for the natural eruption of the tooth, and prosthetic, restorative and surgical solutions (3).

Discussion: A correct early diagnosis is essential in order to drop unnecessary and/or counterproductive treatments such as orthodontic treatment, and to focus on real solutions that are surgical and prosthetic, since primary eruption failure occurs at a key moment for facial growth coordination and the acquisition of sufficient support for functional mastication.

References:

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22. UNILATERAL MASTICATION SYNDROME: THE IMPORTANCE OF AN EARLY DIAGNOSIS

García Magro L.¹, Díez Cano I.², Fernández Molina A.¹
¹Institución Universitaria Mississippi. Madrid. ²Hospital Universitario del Vinalopó. Elche, Alicante

Introduction: Unilateral mastication syndrome is defined as a pathological condition in which the patient chews habitu-

ally on the same side. This pattern of mastication occurs very frequently in the dental clinic. However, sometimes it goes unnoticed by the dentist, who focuses his activity on purely dental issues, leaving masticatory function in the background, despite it being a fundamental pillar in the development of the stomatognathic system.

Objective: The aim of this systematic review of the literature was to evaluate the etiology of unilateral mastication, the clinical characteristics, as well as the repercussions.

Material and method: A search was carried out in the databases of Medline and PubMed, of articles published over the last 10 years. The words used were “unilateral chewing”, “crossbite”, “mastication”, “chewing side preference”, “asymmetry”. Classical books and articles on occlusion were also used.

Results: The articles chosen show that the biggest cause of unilateral mastication is due to premature contact when closing in a centric relationship, as the mandible is rerouted to find the maximum number of dental contacts. The main cause of this lies in the lack of transverse maxillary development, caused mainly by respiratory disturbances or food factors such as a soft diet. It has been observed that unilateral mastication as from the primary dentition can cause severe disturbances such as bone asymmetries, scoliosis and disturbances in the support given by the soles of the feet, and temporomandibular dysfunction in adults.

Conclusions: Given that pediatric dentists are the ones who treat a child from the first years of life, we must focus our attention on detecting these mastication disorders and act accordingly through prevention, and in conjunction with an interdisciplinary team, so that growing children develop in balance and harmony.

23. RARE DISEASES AND THEIR ORAL REPERCUSSION

Gil Martínez L., Fraguas de San José L., Escudero Góngora M., Chico Hernández L., Costa Ferrer F.

Universidad Alfonso X El Sabio. Madrid

Introduction: A rare disease is defined as one with a low incidence among the population, specifically when it affects 5 out of every 10,000 inhabitants. It is estimated that in Spain there are more than 3 million people with rare or infrequent diseases. Two out of three diseases appear in the early onset of life. Many of these diseases involve oral and craniofacial disorders.

Objectives: a) To find out the rare diseases that more commonly occur with the development of oral and craniofacial disturbances; and b) to find out and describe the role of genetics in the development of these unknown diseases.

Methodology: A review of the literature on the topic using the main databases was performed. Data collection was carried out using the pages of the Spanish Federation of Rare

Diseases and Orphanet, an information portal with rare diseases and orphan drugs.

Results: The importance of HOMEBOX genes in the development of diseases with oral and craniofacial repercussions is shown. A table has been put together with the 10 rare diseases that most frequently have oral disturbances, and which are useful for the pediatric and general dentist. Their clinical manifestations, radiological disturbances and other general manifestations that are of dental interest are presented.

Conclusions: The care of these patients requires a multidisciplinary team in which comprehensive support is offered to both patients and their families, who often feel “orphaned”. The early manifestation of these diseases and the disturbance to oral structures at an early age makes the role of pediatric dentistry essential in the field of research as well as clinical therapy.

24. ORAL HEALTH IN AUTISTIC CHILDREN AT THE SANT JOAN DE DÉU HOSPITAL

Gómez Agüero O.¹, Cahuana A.², Brunet L.², González Y.²

¹Universitat de Barcelona. Barcelona. ²Hospital Sant Joan de Déu. Esplugues de Llobregat, Barcelona

Introduction: Autism is a neurodevelopmental disorder characterized by impairments in social behavior, communication and language that generate stereotyped and repetitive activities. The behavior of these children is much harder to handle with respect to the rest of the population, and they require more specialized and individualized attention.

Objective: To determine the oral health status of a group of autistic children and to identify the most frequent oral disorders.

Material and methods: A cross-sectional study was carried out on an autistic population who first came to Sant Joan de Déu Hospital in the period 2016-2017. A questionnaire was given to parents and caregivers on oral hygiene habits and the reason for the visit. Data on age, gender and oral disorders was recorded: caries, gingivitis, bruxism.

Results: The population studied was made up of 19 patients, with males accounting for 84%. The average age at the first visit was 8.1 years (range 5-11 years). The main reason for the consultation was the presence of caries. In 53% of patients, oral hygiene was performed by the parents, once a day. Of the oral disorders registered 84% were caries, 42% gingivitis and 47% bruxism. None had periodontitis.

Conclusions:

- The study sample was small.
- The first dental visit was at 8.1 years, and a non-preventive visit.
- Oral hygiene was deficient, mainly caries, gingivitis and bruxism was observed.

25. MULTIDISCIPLINARY TREATMENT FOR ANHIDROTIC ECTODERMAL DYSPLASIA. A CASE REPORT

Gutiérrez Peña T., Pipa Vallejo A., Díaz Álvarez M., Olay García S., Escobedo Martínez M.

Universidad de Oviedo. Oviedo

Introduction: Anhidrotic ectodermal dysplasia (ED) is a genodermatosis characterized by disorders in ectodermally derived structures. The prevalence ranges from 1: 10,000 to 1: 100,000 live births and it commonly affects males with X-linked recessive inheritance, although there are other forms with autosomal inheritance. These patients present with multiple anomalies in oral development such as anodontia or hypodontia, conical hypoplastic teeth, and underdevelopment of the alveolar ridges. They will require dental treatment throughout their life. This clinical case presents the multidisciplinary treatment for the rehabilitation of a young patient with ED.

Case report: A 7-year-old patient with an ED came to the University Dental Clinic with partial anodontia of both dental arches, conical deciduous canines and hypoplastic secondary upper central incisors. After the study impressions were taken, and a removable acrylic-based partial denture was made for replacing the missing teeth and restoration was carried out with composite veneers of the secondary upper central incisors.

Discussion: Young patients with ED need continuous multidisciplinary treatment adapted to their needs. Removable partial dentures and conservative treatment are a non-invasive and efficient solution for the rehabilitation of this type of patient.

26. THE IMPORTANCE OF THE PEDIATRIC DENTIST IN THE BEHAVIOR OF A CHILD PATIENT

Izquierdo Alabau A., Fernández Máfe M., Ruiz Hernández A., Barceló Llavador I., Sanchís Forés C.

Universidad Católica de Valencia. Valencia

Introduction: Given the current repercussion affecting dentists and society in general regarding the prevention of behavioral problems at an early age, it is important to highlight the role of the pediatric dentist when treating a child during the first visit. The importance of pediatric dentistry treatment being carried out by a pediatric dentist is to prevent behavioral problems, to adequately carry out the required treatment plan, and to determine which patients can be treated with basic behavioral management techniques and those that are candidates for treatment under conscious sedation. For this reason a literature review is justified, with the aim of finding out the pertinent and essential role of pediatric dentists when performing dental treatment in children.

Objectives: To review and update the knowledge and training of specialists who treat children using dental behavior management techniques.

Material and method: A bibliographic search was carried out in the following databases: PubMed, Ebsco, Scielo and Google Scholar, using the keywords “pediatric dentistry”, “anxiety management”, “behavior management”, “dental anxiety” and “children”. Articles published in the last 10 years, with a full text, in English and/or Spanish were selected if the content matched the objectives of the review. As search criteria, the keywords relevant to the title and objective were used, and a total of 240 articles were obtained, of which 22 were selected.

Results: Nuvvula et al. (2013) showed that success in dental practice implies a combination of both practical and psychological skills. Guiding the child’s behavior in the dental office is essential for the success of the treatment plan (1). Gupta et al. (2014) observed that the use of behavioral management techniques allows the child to accept dental treatment (2). Ayala (2013) stresses the importance of evaluating and adapting techniques and emotional management through a psychological approach, through training and a knowledge of the child’s sociological and emotional development (3).

Conclusions:

- The pediatric dentist must possess and be familiar with a series of practical and psychological skills that will enable avoiding or reducing anxiety.
- Training in the management of the child’s emotions in the pediatric dentistry consultation room encourages a positive attitude towards the dental environment.

27. ORAL HEALTH AND ANTHROPOMETRIC PARAMETERS IN CHILDREN WITH AUTISM SPECTRUM DISORDERS

Leiva García B.¹, Molina López J.², Valdepeñas J.¹, Planells del Pozo E.², Planells del Pozo P.¹

¹*Universidad Complutense de Madrid. Madrid.*

²*Universidad de Granada. Granada*

Introduction: Autism spectrum disorders (ASDs) are characterized by eating patterns governed by food aversion/refusal or preferences for certain types of foods. Malnutrition or, on the contrary, an excess of intake may be present. This leads to oral disorders that further complicate eating.

Objectives: To assess oral health and the prevalence of low-weight, overweight and obese children in a population with ASD compared to a group of children with standardized development.

Material and methods: Thirty-six healthy children with ASD from the Autism Association of Granada (n = 10) and from the educational innovation center CEPRI of the Community of Madrid (n = 29) were evaluated, and 46 healthy children with typical development from the Santo Ángel school in Madrid, aged between 6 and 15 years. Anthropometric

parameters were recorded by multifrequency bioelectrical impedance (TANITA), and measurements of cranial perimeter, humerus and height were obtained following approval by the ethics committee of the center, and with the informed consent of the tutors for the study. The intraoral examination was carried out according to the WHO criteria. A previously calibrated evaluator performed the oral examination prior to systematic desensitization of the children in the sample.

Results: 36% of the children with ASD were underweight, 11.1% were overweight, 2.8% of the children were obese, compared to 71.7% of children in the control group who had low weight. Only 2.2 % without ASD were overweight. The higher prevalence of oral diseases was related to risk factors such as poor oral hygiene. Different diets as well as harmful oral habits may cause cavities. In the study group a 47.2% prevalence of caries was observed, compared to 26% in the control group.

Conclusions: A higher prevalence of caries was observed in the group of children with ASD together with a higher percentage of overweight children. It is important to control and follow the nutritional and oral status of children with ASD in order to prevent clinical-nutritional disorders and possible diseases related to undernourishment.

28. MICROFILTRATION: CONVENTIONAL RESIN SEALANT VERSUS GLASS IONOMER

Márquez Vargas T., Marín Sanz F., Traver Ferrando C., Sanchís Forés C.

Universidad Católica de Valencia. Valencia

Introduction: Sealants have been shown to be an effective and conservative way to prevent tooth decay. There are two main types of sealants, those with conventional resin and those with glass ionomer. They can be differentiated by the mechanism of polymerization and adhesion to dental structures. The effectiveness of a sealant is directly related to retention and a good marginal seal. This varies and will depend mainly on factors related to the material and the right application technique. Marginal integrity is an important factor for the success of the seal, and this can be appreciated by assessing microfiltration. Microfiltration can be defined as the entry of bacteria and oral fluids into the space between the tooth and the restoration material. A poor seal will facilitate microfiltration. Given the frequency that sealants are used in pediatric dentistry, a review of the literature is warranted in order to discover the most suitable sealant and minimize microfiltration.

Objectives: A systematic review was carried out of *in vitro* studies in order to assess whether there are significant differences in the degree of microfiltration of conventional resin and glass ionomer sealants.

Methodology: A search of the literature was performed in the following databases: PubMed, Cochrane Library, EBSCO

and DOAJ, using the key words: “sealants”, “resin”, “ionomer”, “prevention” and “filtration”. Articles published in the last 10 years were used, with the full text, in English and/or Spanish.

Results: Conventional resin sealants show lower viscosity and greater enamel penetration, leading to better results with respect to retention and less microfiltration. Several studies have determined that glass ionomer sealants have a lower retention capacity. It is evident that glass ionomer sealants show greater microfiltration, compared to conventional resin sealants. However, other studies report that there are no significant differences in microfiltration between the two materials.

Conclusions:

- Microfiltration is influenced by several factors: depth of pits, technique used, type of material, attrition and habits.
- The use of a suitable protocol and a very thorough application technique will reduce the likelihood of microfiltration.
- Conventional resin sealants show better results regarding the degree of microfiltration, and this is the material of choice.
- Although G.I. showed a higher degree of microfiltration, no statistically significant differences were observed.

29. RARE DISEASES. PROPOSAL FOR A PROTOCOL TO PREVENT ORAL COMPLICATIONS ON THE BIRTH OF A PATIENT WITH EPIDERMOLYSIS

Montero Alonso C.¹, de Lucas Laguna R.², Beltri Orta P.¹, Serrano Martínez M.C.^{1,2}; Planells del Pozo P.¹

¹Universidad Complutense de Madrid. Madrid. ²Hospital Universitario La Paz. Madrid

Introduction: Epidermolysis bullosa is a rare disease characterized by marked fragility of the skin and mucous membranes with the subsequent formation of blistered lesions after minor trauma. Its classification is very broad and in its most severe forms it has extensive general clinical and dental disturbances that seriously compromise the quality of life of these patients. The keywords were “Epidermolysis bullosa”, “clinical manifestations in Epidermolysis bullosa”, “oral manifestations in Epidermolysis bullosa”, “protocols in child with Epidermolysis bullosa”, “treatment protocols in child with Epidermolysis bullosa”.

Objectives: To draw-up, in conjunction with the medical specialists of the department of pediatric dermatology, protocols to prevent oral complications from birth.

Material and methods: After the analysis of the latest guidelines in the protocol for immediate action on the birth of a patient affected by epidermolysis, and following mutual agreement between the Pediatric Dermatology Department of the Hospital Universitario La Paz in Madrid and the “Special-

ist in Integrated Dental Care for Children with Special Needs” own degree course of the Faculty of Dentistry of the Universidad Complutense de Madrid, a document of consensus was created in order to favor the oral care necessary on the birth of children with epidermolysis bullosa. This document contains the key points and an action plan that should be adopted from birth. It is a starting point to minimize the oral sequelae that are detrimental to the quality of life of these children.

Results: The Pediatric Dermatology Department of the Hospital Universitario La Paz in Madrid is the Reference Center for the Rare Disease of Epidermolysis. In conjunction with pediatric dentists of the Faculty’s own degree course “Specialist in Integrated Dental Care for Children with Special Needs”, care protocols were created for the perioral and intraoral mucosa areas for application as from birth, and classified according to the diagnosis of each entity.

Conclusions: Pediatric dentists should be familiar with the oral manifestations of the different types of EB, from enamel disturbances to scarring, microstomia, ankylosis, oral destruction that condition the quality of life of these children. The role of the pediatric dentist and dermatologist, within a multidisciplinary team that attends these children from birth, is fundamental to prevent the genesis of oral lesions from birth.

30. DIAGNOSIS OF GINGIVAL HYPERPLASIA ASSOCIATED WITH FIXED ORTHODONTIC APPLIANCES IN CHILDREN AND ADOLESCENTS

Murcia Herrero E., Hervás Giménez N., Albert Gascó L., Plasencia Alcina E., Sanchís Forés C.
Catholic University of Valencia. Valencia

Introduction: Gingival hyperplasia is one of the diseases of the gums, characterized by the formation of artificial bags and an increase of the size of the gums without loss of insertion. It represents a common condition during treatment with fixed orthodontic appliances because the components of the devices create new retention zones, making oral hygiene difficult, contributing to the accumulation of bacterial plaque leading to gingival inflammation.

Objectives: To assess whether fixed orthodontic treatment and its variables influence the development of gingival hyperplasia.

Material and method: This was an observational, analytical, case-control, longitudinal study. A total of 70 patients were selected, 30 boys and 40 girls between the ages of 10 and 18 years. They were classified according to whether or not they were orthodontic patients, and two groups (cases and controls) were formed. In the case group, type of brackets, type of arch wiring and the presence of bands in the first permanent molars were recorded. The plaque index was evaluated using the Silness and Løe index (1964), the gingival index of Løe and Silness (1967), the index of gingival hyperplasia (thickening and invasion of the gingival tissues) using the index developed by Zanatta et al. (2012; 2013) and the excess

resin around the brackets using the six teeth of Ramfjord 1.6, 2.1, 2.4, 3.6, 4.1 and 4.4.

Results: The data was analyzed using SPSS software. Student’s ANOVA and t-tests were used to study the relationships between the variables, and the Games-Howell and Welch tests to study the type of relationship between them. According to the results, the index of gingival hyperplasia was significantly higher in patients with fixed orthodontic appliances. In addition, no statistically significant differences were observed in the type of bracket used. On the other hand, the index of gingival hyperplasia was significantly lower when no excess resin was present around the bracket.

Conclusions: Hyperplasia is clearly and significantly associated with the use of fixed orthodontic appliances. In addition the presence of excess resin around the bracket may influence the development of this condition.

31. BEHAVIOR SCALES IN PEDIATRIC DENTISTRY

Nazir M., Boj Quesada J., Hernández Juyol M., Espasa Suárez de Deza J.
Universitat de Barcelona. Barcelona

Introduction: Patient anxiety can be a problem for both dentist and patient in pediatric dentistry. Every author has their own opinion on child behavior. To perform successful treatment, the behavioral management of a pediatric patient is fundamental. An evaluation of the degree of cooperation and communication of the child should be made in order to plan proper treatment. The normal behavior of a child depends on age, personality and physical and psychological development. There is a great variety of behavior among children that will lead to a certain type of character in particular circumstances. There are several behavior scales in pediatric dentistry that raise awareness of a child’s possible responses to different dental treatments.

Objective: The objective of this study was to study behavioral scales in pediatric dentistry and to analyze the utility and validity of these scales.

Methodology: We carried out a review of the literature in the PubMed database, Cochrane Library, the academic world of international and national journals, using the keywords: “conduct scale”, “dental anxiety”, “Frankl scale”, “dental behavior Assessment, as well as in books.

Results: There are different systems that classify a child’s behavior during the consultation which can be used to assess each patient at each point in time and to evaluate the patient’s cooperation during the first visit and then compare it with their cooperation during subsequent visits. Wright’s classification establishes three categories of a child’s behavior: cooperative, unable to cooperate, and potentially cooperative. The Rudd and Kisling scale is based on verbal activity, muscle tension, and muscle expression. The Venham scale is used both to assess anxiety and behavior. The Frankl Scale divides behavior into 4 categories; definitely negative, slightly negative, slightly positive, and definitely positive. Other scales

such as Lampshire and Wilson are also employed in pediatric dentistry to assess a child's behavior.

Conclusions: It can be concluded that the Frankl scale is still the most used to assess child behavior in pediatric dentistry, since it is the most effective, functional and simple, and it is very reliable. The other behavior scales are not commonly used in the daily practice of pediatric dentistry, as there are no recent studies on them.

32. ACUTE NECROTIC ULCERATIVE GINGIVITIS IN THE CHILD PATIENT. A CASE REPORT

Oprysnyk L., Yuste Bielsa S., Guinot Jimeno F., Cuadros Fernández C., Lorente Rodríguez A.

Universidad Internacional de Catalunya. Barcelona

Introduction: Acute necrotizing ulcerative gingivitis (ANUG) is uncommon in the pediatric patient. The majority of cases occur in adolescents and young adults, especially between the ages of 15 and 30 years. It is an acute opportunistic gingival infection caused by bacterial dental plaque in weak or malnourished patients, those with immunodeficiency or some other systemic risk factors such as alcoholism and smoking. The clinical presentation is of poor general state, gingival ulceration accompanied by intense pain.

Case report: An 11-year-old female patient with no medical history of relevance visited the UIC Dental Clinic, reporting diffuse gingival pain in the oral cavity, making it difficult to chew. During the clinical examination, considerable inflammation and ulceration of the gums was observed in both arches, in addition to numerous whitish lesions with a diameter of 0.5 mm on the palate. Superficial gingival cleaning was performed in addition to systemic treatment with metronidazole 250 mg for 10 days and 0.12% chlorhexidine rinses twice a day. During the follow-up at two weeks, periodontal probing was performed and the tartar removed, which led to an improvement in the condition of the gums and the patient's symptoms.

Discussion: There is no protocol for treating ANUG in child patients, so it is up to us to adapt to the young age of these patients. Firstly, the existence of systemic factors should be ruled out by means of a referral. Secondly, the need for antibiotic therapy along with local treatment should be assessed, and instructions to parents regarding hygiene should not be overlooked. The importance of a good diagnosis and early intervention by the dentist is essential to prevent the terrible progress of ANUG.

33. MATERIALS TO SUBSTITUTE DENTIN. A STUDY ON BIOCOMPATIBILITY AND MICROFILTRATION

Pérez Pardo A., Alcaina Lorente M., Guzmán Pina S., Cortés Lillo O.

Universidad de Murcia. Murcia

Introduction: In dentistry finding materials that can replace lost dentin once a carious lesion has been removed is becoming increasingly important. That is why dentin substitutes, such as SDR (Smart Dentin Replacement) or Biodentine, arise. For the treatment to be a success the agents that are used for this purpose must be biocompatible and have good adhesion that avoids marginal filtration.

Objectives: To evaluate and compare several materials used as dentin replacement through a biocompatibility and microfiltration test.

Material and method: A toxicity test was performed using cell cultures of the L929 cell line. Cells were exposed to serial dilutions of Biodentine and SDR extracts. Ten permanent premolars extracted for orthodontic reasons were selected for the microfiltration study. Samples were left in water for 24 hours after being sealed. Staining was then carried out using methylene blue. Finally, a longitudinal section of the samples was carried out and the microfiltration was evaluated using the Millers scale.

Results: The results are being evaluated. They will be evaluated by optical microscopy and by statistical analysis.

Conclusions: For a restoration to be successful in the long term, it is essential that if dentin replacement materials are used, they are biocompatible and have good adhesion to prevent marginal filtration.

34. CURRENT TREATMENT FOR EXTERNAL RESORPTION AS A RESULT OF A TRAUMATIC DENTAL INJURY

Pozo Canales E., Guerrero Ortiz F., Estévez Arroyo B., Ribas Pérez D., Mendoza Mendoza A.

Universidad de Sevilla. Sevilla

Introduction: External root resorption (ERR) represents a serious complication that may occur after a traumatic dental injury, with external root resorption substitution (ERRS) and external inflammatory root resorption (EIRR) being the main causes of tooth loss (1,2). The radiographic appearance is of a progressive radiolucent area of the root and adjacent bone (3), in the cellular and molecular component. Cytokines play a key role in modulating the cellular processes involved in bone resorption, and it has also been suggested that they participate in the resorption of the teeth (1). When starting proper treatment, early diagnosis and the identification of the etiological factors of resorption is essential for obtaining the best possible prognosis (4-6).

Rationale: Due to considerable developments in current dentistry, there are new protocols for treating post-traumatic external resorption and the intention of this bibliographic review is to obtain information on the new protocols for treating this dental pathology.

Objectives: General: to identify new treatment for external resorption. *Specific:* to demonstrate the viability of the new treatments for external resorption.

Methodology of the review: The literature was selected through a search in the electronic databases of PubMed, Web of Science, Cochrane, with the following keywords: external root resorption, post traumatic, dentition permanent, treatment. The research was limited to articles published in English indexed in JCR 2016. Six articles met the inclusion criteria and were included in this review.

Results: At present, intracanal calcium hydroxide is the treatment of choice to halt the development of external resorption, with the subsequent change to intracanal MTA. In the present review we observed that cases were treated by revascularization and that the treatment was successful in stopping the development of external resorption as a result of a traumatic dental injury.

Conclusions:

- Treatment of external inflammatory root resorption may be predictable, depending on the etiology.
- Pulp infection can perpetuate the resorption process, and it is the most important stimulation factor for root resorption.
- Revascularization is a new treatment to stop external resorption, but it needs more scientific evidence to be considered the ideal therapy.

35. PEDIATRIC PATIENTS WITH A “PERMISSIVE” TYPE OF EDUCATION

Reina Chiclana I., Hernández Juyol M., Espasa Suárez de Deza J., Boj Quesada J.

Universitat de Barcelona. Barcelona

Introduction: The educational style that parents choose for their children is defined as the way they are trained, and the way conflicts are resolved or decisions made. This, together with the temperament of the child, results in different forms of behavior in the dental consultation room. Permissive parents exert little or no control over their children, and children raised in this environment do not follow proper behavior principles, neither are they very persistent. They are very unruly and have many self-control and responsibility difficulties.

Objectives: This review aims at analyzing, on the one hand, the behavior and characteristics of the child educated with a permissive behavioral pattern in the pediatric dentistry consultation room and, on the other hand, how the pediatric dentist should act using behavioral guidance techniques.

Material and method: The bibliographic search was performed using the PubMed and Cochrane databases, as well as the indexes of different professional organizations, Academies of Pediatrics and Pediatric Dentistry. The search terms used were “permissive parents”, “pediatric dentistry”, “children”, “behavior”, separated by boolean operators. The resulting articles were subject to inclusion and exclusion criteria, including those published in the last five years and written in English or Spanish. After that, they were reviewed according

to title and abstract, and finally analyzed according to the content and information of interest.

Results: In recent years, most of the published studies agree that pediatric dentists currently have more problems when dealing with patients with permissive parents. This is due to changes in parent-child relationships, which have forced us to change how we work in many ways. The ideal relationship model is of mutual participation, where patient, parents and dentist cooperate to reach the same goal, but this is not always achieved.

Conclusions: There are many factors that influence this relationship, and how children are brought up has a great influence. The permissive education style arises from a parental need to overprotect children and it translates into avoiding emotional anxiety during the dental visit. As demands are reduced, the child sees himself with the power to decide when and how the treatment should be carried out, leading to unsuitable behavior in the dental consulting room. By having more precise knowledge on existing behavior techniques, these can be applied in a simpler and more effective manner, and adapted to each person’s style.

36. MATERIALS OF CHOICE FOR PULPECTOMIES. A REVIEW OF THE LITERATURE

Rodríguez Abuin I., Fernández Soria M., Serna Muñoz C., Ortiz Ruiz A., Pérez Silva A.

Universidad de Murcia. Murcia

Introduction: The increase in the incidence of dental caries in the primary dentition at a very early age has led to an increase in pulp therapies. We therefore need products that are safer and more durable for root canals.

Objectives: To carry out a bibliographic review on the different materials currently on the market for filling in root canals in the primary dentition.

Methods: A bibliographic search of the articles available up until September 2016 was carried out in PubMed, Pharmaceutica News Index, Medline, Medes, The Cochrane Library, with the keywords: pulpectomy, primary dentition, primary teeth, calcium hydroxide, zinc oxide eugenol and iodoform.

Results: A total of 258 articles were obtained. The following exclusion criteria were applied: case reports, reviews, pilot studies, animal studies, no abstract available, not relevant. Of these, 123 articles were discarded after reviewing the abstract, 89 articles after assessing the title and 31 articles after reading. 15 items were considered as high quality for the final study. All of them underwent the NewCastle Ottawa quality scale.

Conclusions: ZOE is still the control material used in studies on filling material for root canals in pulpectomies. *In vitro* studies indicate that ZOE is the product with highest antibacterial properties. *In vivo* studies, however, point to Endoflas as the product with better clinical and radiological results. More quality studies are needed to find materials that meet our needs.

37. DO WE KNOW HOW TO CLASSIFY UNION TOOTH ANOMALIES?

Roldán Calderón M.¹, Fraguas L.², Gil Martínez L.², Granja Pacheco B.², Reyes Ortiz A.²

¹Clínica Dental Roldán. Madrid. ²Universidad Alfonso X El Sabio. Madrid

Introduction: According to Stewart and Prescott (1976), anomalies of union in teeth are classified into fused, geminated, coalescence, concrescence and ankylosed teeth. But in daily practice we find cases that are difficult to diagnose following this classification.

Case report: Clinical cases are presented for each union anomaly, but we will find cases outside this classification that should be included under another name. Radiographic examination, by means of orthopantomography and CBCT, helps reach the correct diagnosis and a treatment plan for these anomalies can then be prepared.

Discussion: Abanto et al. (2012) state that disturbances in dental development can affect both the primary and secondary dentition. Of these, fusion and gemination are characterized by the presence of a much wider tooth (J.R. Patel et al., 1984). McDonald (1998) states that the fusion of primary teeth determines the agenesis of a permanent tooth, with the resulting aesthetic problem in the arch. Options for the treatment of fused teeth include endodontic, surgical and periodontal treatment. Other authors opt for extraction of the tooth, followed by orthodontic treatment in order to achieve the best aesthetic appearance and occlusion. The possible impact of dental development anomalies in children makes it necessary to both discover the etiology and make a proper diagnosis. In this way advice and treatment can be given, functional and aesthetic problems avoided, despite the treatment required being a challenge for pediatric dentists.

38. MYOFUNCTIONAL THERAPY FOR THE OROFACIAL TREATMENT OF BECKWITH-WIEDEMAN SYNDROME

Salado Landete G.¹; Moreno González M.²; Hernández Amayas M.³; Riobos González M.³; Costa Ferrer F.³

¹Clínica Landete. Madrid. ²Clínica Dental Moreno Fluxá. Madrid. ³Universidad Alfonso X El Sabio. Madrid

Introduction: The consequences of poor oral habits may be the reason for consulting different health professionals, who establish a diagnosis and provide treatment according to their specialty, often overlooking a comprehensive approach to the problem. An example of this is Beckwith-Wiedeman syndrome, a congenital disorder characterized by macrosomia, defects of the abdominal wall and macroglossia, a condition in which the tongue is larger than normal, due usually to an increase in the amount of tissue which causes dento-mus-

culoskeletal disorders, leading to problems in mastication, phonation and breathing, as well as uncertain orthodontic and surgical treatments.

Objectives: To find grounds for multidisciplinary treatment for Beckwith-Wiedeman syndrome by interconnecting the orofacial disturbances with the medical-stomatological solution and the myofunctional rehabilitation.

Material and methods: We reviewed the published works related to Beckwith-Wiedeman syndrome, macroglossia and postoperative therapy, as well as articles related to myofunctional therapy for treating habits.

Results: The definitive diagnosis of the syndrome is usually made once the child is born, although it is now possible to detect the syndrome during the prenatal stage, which would allow the parents to receive advice in addition to birth planning, neonatal care and solving any complications. Myofunctional therapy would cover all the necessary procedures and techniques for correcting the orofacial muscular imbalance, the creation of a new and normal muscular behavior, the reeducation of harmful habits and the improvement of the patient's aesthetic appearance.

Conclusions: Our intention is to emphasize that when parents are sufficiently informed and when there is the right interrelationship among the professionals involved in the care of these patients, doctor-surgeon, dentist-orthodontist to correct or rule out malocclusion, and speech therapy for their myofunctional reeducation, the results are often satisfactory.

39. PROSTHETIC REHABILITATION OF A BOY WITH ECTODERMAL DYSPLASIA. A CASE REPORT

Saura P., Valverde García P., Pérez Silva A., Serna Muñoz C., Ortiz Ruiz A.

Universidad de Murcia. Murcia

Introduction: Ectodermal dysplasia (ED) belongs to a heterogeneous group of hereditary diseases characterized by abnormal development of ectodermal tissues. The most common form is hypohyrotic ED which is linked to the X chromosome (HED). The characteristic triad of HED is oligo-/hypo-/anodontia, hypotrichosis and hypo-/anhidrosis. Among the most frequent oral manifestations are conical teeth, absence of teeth, delayed eruption of permanent teeth, fine alveolar crest and dry oral mucosa. This severely affects chewing, swallowing, speech, esthetics and social relationships, and early prosthetic rehabilitation is therefore required.

Case report: This was a 3-year-old boy diagnosed with HED whose intraoral examination revealed teeth 5.5, 6.5, 5.1 (conical) and 6.1 (conical). None of the teeth in the mandible had erupted. An orthopantomography was performed and 1.6, 5.3, 6.3, 2.6, 7.3, 8.3 and a distal supernumerary of 8.3 were observed as unerupted. Reconstruction of the conical teeth, 5.1 and 6.1, was carried out to give them a natural shape, and impressions are taken with alginate to make an upper remov-

able partial denture. The rehabilitation of the lower jaw will take place once the lower canines have erupted.

Discussion: The design of the prosthesis should be individualized, taking into account the number, size and shape of the erupted teeth, facial esthetic appearance, vertical dimension and growth and developmental characteristics of each patient. We can choose between removable partial prosthesis, complete prosthesis, overdenture or implant-retained prosthesis. Early orthodontic care should also be taken to improve the vertical growth process, maintain the maxillo-mandibular relationships, provide a permanent base for prosthetic rehabilitation, benefit stomatognathic function, and improve the facial appearance and profile. In this case we decided to make a Hawley with Adams clasps in 5.5 and 6.5 to replace all the missing teeth in the upper arch and with a triple screw to adapt it to the transverse and anteroposterior growth of the jaw.

Conclusions: The prosthesis chosen for this case met all the expectations from the functional, esthetic and psychological point of view of the child. Both families and pediatric dentists think that prosthetic rehabilitation should be carried out early in children suffering from this disease.

40. ORAL HEALTH IN PATIENTS WITH FOOD DISORDERS

Spagnoli Santa Cruz R.¹, Cahuana A.², Brunet L.²; Serrano E.²

¹Universitat de Barcelona. Barcelona. ²Hospital Sant Joan de Déu. Esplugues de Llobregat, Barcelona

Introduction: Eating disorders are a group of psychopathological disturbances, characterized by the relationship between food intake pattern, weight control, distorted body image and different behavioral profiles with respect to diet. In this group of disorders, anorexia and *bulimia nervosa* stand out due to their frequency, both presenting a caloric imbalance that will lead to local and systemic disorders. The description of oral disturbances related to food disorders led us to perform a review of a group of patients.

Objective: To describe oral health status in a group of patients with eating disorders.

Material and method: A cross-sectional and consecutive study was carried out during January and February of 2017 in patients with eating disorders who visited Sant Joan de Déu Hospital. An oral hygiene survey and a dental examination were carried out, which included: dental disturbances (caries and erosion, with the extent of this), gingival health, soft tissue injuries, salivary gland involvement and salivary volume measurement, and pH.

Results: Twelve patients were studied; 75% were females with a mean age of 14.6 years (range 12-16). The period with the eating behavior disorder was under 6 months. Oral hygiene habits were well established in 92%. The DMF index was 0.9 and no active caries were observed. No dental erosion

was observed or soft tissue or salivary gland lesions. The volume of stimulated saliva was less than 0.7 ml/min (below the normal range) in 58% and the pH in 33% was 5.5, which is considered a critical pH level.

Conclusions:

- This is a preliminary study as the sample studied is small, and the evaluation period after the onset of the disease was short.
- There were no noticeable changes in teeth, gums or soft tissue.
- The sample studied had correct hygiene habits.

41. PULP RESPONSE TO BIOMATERIALS BASED ON CALCIUM PHOSPHATES IN PEDIATRIC DENTISTRY

Vargas Vargas M., Ribas Pérez D., Cabanillas Balsera D., Bayón Hernández G., Mendoza Mendoza A.

Universidad de Sevilla. Sevilla

Introduction: There are numerous anatomical and histological differences between the primary and secondary dentition. These differences, such as the shorter distance between enamel and pulp, or the higher percentage of organic material in primary teeth, encourages the onset of caries with a greater speed, and pulp tissue is more easily affected. Pulp treatment in the infant and child population is very common today. The main objective is to maintain the function of the affected teeth until the natural exfoliation of the primary teeth or the root development of the young permanent teeth. Of the different therapies that are classified according to the degree of pulp involvement from caries, the following stand out: indirect pulp capping, direct pulp capping, pulpotomy, partial pulpotomy, pulpectomy, apexification and revascularization. In order to carry out these treatments, different materials have been used over the years. It has been shown that some of them have harmful properties for the living tissues of the tooth, and even in large quantities for the body in general, such as formocresol. For this reason, the use of new materials with similar characteristics to dental tissue and with very good biocompatibility is being studied, in order to avoid adverse reaction in the pulp. Among these materials we will find the MTA and Biodentine®.

Objectives: To evaluate pulp response after the application of different biomaterials in primary and permanent young teeth based on a bibliographic review.

Material and method: The bibliographic search was performed in the PubMed and Scopus databases, using the following terms: “dental pulp”, “MTA” and “Biodentine”. They were combined with each other as follows: “dental pulp” AND (MTA OR Biodentine), and a total of 451 articles were obtained.

Results: The articles were filtered according to year of publication, and the studies carried out in the last 5 years were chosen according to series, those carried out in humans, by

age, and those performed in children under 18 years. Once the SORT criteria and manual filters had been applied, there were a total of 20 articles and all were chosen for the final analysis.

Conclusions: MTA and Biodentine® are materials that have very good biocompatibility with the living tissues of the body. Both materials are considered suitable for carrying out pulp treatments in both primary and permanent teeth. More well-designed studies are needed to evaluate the long-term effectiveness of these biomaterials.

42. SUPERNUMERARY TEETH. A PLAN OF ACTION

Villar Luján C., Barbería Leache E., Feijóo García G., Fuentetaja Restrebada I., Velayos Galán L.
Universidad Complutense de Madrid. Madrid

Introduction: Supernumerary teeth are considered to be teeth that appear in addition to the normal number of teeth, and they can be defined as a disturbance in the initiation and proliferation stage of dental development. They can occur in the primary dentition, permanent dentition or both, and are more common in the maxilla. They are confirmed radiographically using periapical, occlusal or panoramic radiography, and complementary tomographic testing (CT or CBCT) is recommended. In most cases they are due to isolated events, but sometimes they are associated with syndromes or inheritance.

Case report: This was a patient aged 3 years and 9 months with ASA I risk, who first came to the clinic due to infectious disease. During the clinical examination, a supernumerary tooth was observed in the second quadrant. The radiographic examination confirmed this, and another intraosseous supernumerary tooth was discovered in the same area, right next to the tooth germs of the lateral incisor, canine and the first premolar. The infection was treated first and periodic reviews were planned. The extraction of the supernumerary teeth was postponed and they were monitored since, in the primary dentition, a supernumerary in the mouth does not interfere in the functionality and esthetic appearance of the patient. In the permanent dentition it was intraosseous and close to two developing tooth germs that had less than two thirds of their roots developed, and it was considered that there was a high risk of disturbing their development if a surgical approach was made. When he was aged 8 years and 9 months the extraction of the supernumerary tooth in the primary dentition was planned, as it was beginning to interfere with the eruption of the lateral incisor. CT was requested and he was referred for the surgical extraction of the supernumerary tooth in the permanent dentition. The subsequent eruption of the teeth in the region was controlled.

Discussion: Treatment protocols depend on the size, shape, and number of supernumeraries and the dental development of the patient. In the literature, different authors recommend extraction during the mixed dentition as a therapeutic option, and to wait until the adjacent incisors are at least two thirds

developed given the risk for the teeth that are forming, as this would still allow for the spontaneous eruption.

Conclusions: Early diagnosis and timely treatment are important in the prevention and management of possible complications.

43. SOCIO-DOMESTIC FACTORS AND THEIR RELATIONSHIP WITH DENTAL ANXIETY AND FEAR IN CHILDREN AGED 6 TO 12 YEARS

Vivas Prado M., Ruiz Hernández A., Rojo Moreno J., Sanchís Forés C.

Universidad Católica de Valencia. Valencia

Introduction: In pediatric dentistry child dental anxiety and dental fear are often the cause of behavioral problems in children during dental treatment. There is currently little information on the effects of culture, the child's family environment or socioeconomic status, which together with other factors may be one of the reasons why there is high variability in the prevalence of dental anxiety. Studies worldwide indicate that the prevalence of dental anxiety and dental fear varies from 3%-43%, which warrants the present study in order to discover the different factors that could contribute to their appearance.

Objectives: To determine the level of general and dental fear, or dental anxiety, in children and their relationship with social and domestic factors in the child's environment, in addition to finding out if there is a relationship between general anxiety, dental anxiety and dental fear.

Material and methods: The sample consisted of 40 children aged 6 to 12 years. Their level of dental fear, dental and general anxiety was recorded using the Children's Fear Survey Schedule (CFSS-DS), the FIS fear scale, and the Revised Children's Manifest Anxiety Scale (CMAS-R). Information on the socio-domestic environment of the child was also obtained through the parental relationship information requested from parents. The data obtained was analyzed using the SPSS 22 statistical program. Descriptive frequencies and statistics, inferential tests as well as t-tests and ANOVA were calculated. Pearson correlation coefficient and chi-square tests were used.

Results: The level of dental fear, dental and general anxiety was low, 2.5% for both moderate and severe dental anxiety, 10% of the children had high dental fear and 7.5% high general anxiety. The results obtained showed significant differences regarding family environment. Children with parents born in Spain, as well as children with separated, divorced or single parents displayed greater dental fear and general anxiety. And there was a significant correlation between general anxiety and dental fear.

Conclusions: Children with parents born in Spain, as well as children with separated, divorced or single parents presented greater dental fear and general anxiety. The older the age of the parent, the higher the child's level of dental fear, and the higher the level of the parent's education, the higher the general anxiety level.

44. WHAT IS PUBLISHED IN *ODONTOLOGÍA PEDIÁTRICA*? A BIBLIOMETRIC STUDY ON THE SEOP'S SCIENTIFIC PUBLICATION

Vivero Couto L., del Piñal Luna I., Valdepeñas Morales J., Montero Alonso C., Planells del Pozo P.
Universidad Complutense de Madrid. Madrid

Introduction: Our publication was created with the aim of being the scientific publication of the Spanish Society of Pediatric Dentistry with three annual issues. Evidence-based pediatric dentistry consists in the clinical application of the best available scientific evidence. *Odontología Pediátrica* is the leading reference journal on pediatric dentistry in Spain.

Objectives: The aim of this study was to assess the quantity and quality of articles published in our journal since 2001, in addition to examining current research trends in Spain.

Material and method: A cross-sectional bibliometric study of articles published in *Odontología Pediátrica* was carried out. Inclusion criteria were post-2001 articles, while exclusion criteria included abstracts, editorials and conference news, as well as publications that were not available on the SEOP website. Once these criteria were applied, 152 articles were obtained. The data about the area, subject and study design were collected in an Excel table for further analysis.

Results: The year in which most articles were published was in 2002, with 18 publications (12%). Most of the studies carried out in Spain came from Catalonia (27%), while 14% of the publications were submitted by foreign authors. The most frequently published topics are prevention (17%) and patients with special needs (14%). With regard to the design of the study, reviews (32%), followed by cross-sectional studies (20%) stand out for their frequency. On the other hand, articles based on clinical trials made up only 1% of all articles. Since 2001, there has been a marked increase in publications on prevention, clinical cases and studies sent from abroad, as well as a decrease in articles on behavior management, orthodontics and bibliographic reviews.

Conclusions: *Odontología Pediátrica* has gained in popularity in recent years, especially in the international arena, as seen in the rise of articles coming in from abroad. However, the reviews still make up a large part of the publication. There is a need for more randomized clinical trials to increase the quality of the scientific evidence available in this publication. One of the quality criteria of this SEOP publication is the bilingual edition in English and Spanish.

45. THE PEDIATRIC DENTISTRY PATIENT EDUCATED WITH THE “NO INTEREST BEHAVIOR PATTERN”

Fano Hernández E., Hernández Juyol M., Espasa Suárez de Deza J.E., Boj Quesada J.R.
Universitat de Barcelona. Barcelona

Introduction: Many of the patients who are seen in the dental office come when the situation is critical or pain forces the parents to take them for pediatric dentistry care. The factors affecting behavior are mainly pain, psychological condition, age, stage of development, emotional state and personality traits.

Objective: To investigate the type of patient and their characteristics, that comes for a consultation with a disinterested attitude. This leads us to compare their behavior with the type of education or care they receive at home. This scenario is not pleasant for us as pediatric dentists, although it is not the responsibility of the patient.

Methodology: A search was made in the Medline PubMed data base, with the keywords: “behavior”, “education”, “children management”. Inclusion criteria were articles in Spanish and English published in the last 10 years.

Results: Both in the clinic and in the articles found, it was observed that children educated in uninterested behavioral patterns display similar behavior towards the pediatric dentist, adopting attitudes that make treatment difficult. Moreover, it was observed that the majority of the parents of these patients approved their behavior.

Conclusions: Children educated with the “no interest” pattern of behavior represent a challenge for the pediatric dentist who needs to be familiar with their peculiarities in order to apply the guidelines for behavior for each particular situation.

46. MORPHOFUNCTIONAL REPERCUSSION OF MAXILLARY EXPANSION IN A PATIENT WITH SPINAL MUSCULAR ATROPHY

García Mato E., Vidal Mariño P., Abeleira Pazos M., Ruiz Piñón M., Limeres Posse J.
Universidad Santiago de Compostela. Santiago de Compostela, A Coruña

Introduction: Controlled maxillary expansion is indicated primarily in transverse malocclusions but it causes significant morphometric changes to the upper airways.

Objectives: The aim of this study was to evaluate the volumetric changes in the airways and the clinical repercussions, after performing maxillary expansion in a patient connected to a Positive Airway Continuous Pressure (CPAP) device.

Case report: This was a 10-year-old male with a diagnosis of spinal muscular atrophy (SMA) type II. The patient needed nocturnal CPAP, with Positive Airway Pressure (IPAP) of 12 cm H₂O, a positive expiratory airway pressure (EPAP) of 8 cm H₂O and a respiratory rate (FR) of 18 rpm, with average oxygen saturation of 95.9%. In the last two years he had had 13 episodes of upper airway infection and a total of 20 days in hospital. The oral examination revealed limited oral opening (19 mm), lip interposition habit and oral breathing. He also had dental eruption disturbances with overcrowding and maxillary compression.

Material and method: For 6 weeks a mandibular movement rehabilitation device (Therabite®) was prescribed, and a maximum mouth opening of 29 mm was achieved. Impres-

sions were then taken to make a removable orthodontic appliance. A McNamara-type expander was designed which, once inserted, was activated at a two-turn rate each night for 1 month. The mechanism was blocked for 3 months and a removable retainer was then fitted. Baseline and final readings of both Cone Beam Computed Tomography (CBCT) and polysomnography were taken.

Results: The volume of the upper region increased after maxillary expansion by 18.6%. The IPAP was reduced to 10 cm H₂O and the EPAP to 6 cm H₂O, maintaining an average oxygen saturation of 95.9%. In the two years after maxillary expansion, the patient had 4 episodes of upper airway infections and a total of 10 days in hospital.

Conclusion: Rapid maxillary expansion in children with a systemic pathology that leads to respiratory compromise may in some cases provide substantial functional and clinical improvement, increasing airflow and significantly decreasing the number of upper respiratory tract infections.

47. COMPLICATIONS IN THE AVULSION OF A PERMANENT TOOTH. A CASE REPORT

Sánchez Gea A., Huertas López M., Solano Mendoza P., Solano Mendoza B., Mendoza Mendoza A.

Universidad de Sevilla. Sevilla

Introduction: Avulsion is one of the most serious and complicated form of dental injury, in which the total displacement of the tooth from its socket affects the alveolar bone, gingival tissues, periodontal ligament, pulp and cementum. After replantation, the complications described in these types of traumatic injuries can occur after weeks, months or even years.

Objective: To demonstrate through a review of the literature the type of complications that can occur after an avulsion and to illustrate this with a clinical case.

Case report: A 15-year-old patient with tonsil surgery in 2010 went to the Faculty of Dentistry in Seville in October 2016. During the tonsillectomy, avulsion of tooth 21 occurred which was immediately replaced. After this, there was no clinical or radiographic monitoring. The tooth became submerged over the years. After a clinical and radiographic examination, a series of complications were observed.

Comments: The most common complications that may arise are pulp canal obliteration, external and internal root resorption, pulp necrosis, replacement resorption, ankylosis or cysts. In this case, all the complications are presented.

Discussion: Complications following an avulsion are very common. After these types of lesions, clinical and radiographic monitoring is very important for avoiding complications, maintaining the aesthetic and functional aspect of the tooth, and for maintaining the tooth in the mouth in the long term without complications.