

Oral Communications

1. THERAPEUTIC ACTION IN A CASE OF IMPERFECT AMELOGENESYS

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Introduction: Amelogenesis imperfecta is a structural anomaly of the enamel that is of the hereditary type. The incidence varies between one out of every 12-14.000 inhabitants. Amelogenesis can be classified depending on the stage of the disturbed development into hypoplastic, hypocalcification or hypomaturation type.

Case report: We present the case of a five year old child in the primary dentition stage, diagnosed with Amelogenesis Imperfecta, and describe the steps taken depending on the clinical requirements. After carrying out a clinical and radiologic study the following treatment plan was carried out: preformed crowns were placed on the lower primary molars, and pulpotomies together with amalgam fillings were carried out in the upper primary molars. After the eruption of the first permanent molars and, given the increase in the vertical dimension, aesthetic preformed crowns were placed on the upper primary molars. Once the treatment plan had been completed, the patient continued to attend the clinic for periodic examinations.

Conclusions: There are considerable treatment options for this pathology. Periodic examinations to check the treatment carried out are important so that possible complications can be avoided in the future.

2. ORODENTAL DISORDERS IN A SAMPLE OF CHILD PATIENTS WITH DOWN SYNDROME

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Introduction: Down Syndrome (DS) or Trisomy 21, is the most common chromosome disturbance and, at a global level the risk of this disorder is 1/600-800 newborns.

Patients with DS have different disorders that are characteristic at a physical as well as mental level. As patients they are known to be very friendly, sociable and cooperative. At an orodental level they have various disorders that are evaluated in this study.

Objectives: Our aim was to determine the orodental disorders in DS in a pediatric population.

Materials and methods: A cross-sectional study was carried out of a sample of 50 patients with DS within a follow-up program of the Sant Joan de Déu Hospital

during 2010. An evaluation was made of: a) Age and sex; b) Association with heart disease; c) dental disorder: dental eruption and development (shape, number and size), and caries rate: dmft, DMFT; d) Soft tissue disorders (gingivitis, periodontitis, and tongue); e) Occlusal disorder; and f) Evidence of any bad habits.

Results: The sample studied was made up of 50 patients with DS who had:

1. A mean age of: 11.6 (range 5-18 years). Gender distribution: 27 boys and 23 girls.

2. The association with heart disease was 37.2%.

3. The dental disorders included delayed eruption of the anterior teeth in 35.2% followed by premolars and molars. Dental agenesis in the permanent dentition was 61.4%, with upper lateral incisors being the more commonly affected followed by molars and premolars, both upper and lower. Only two patients had agenesis of the primary dentition, 42% had microdontia and 34% a tooth with a conoid shape. The DMFT rate was of 1.1% and 63% did not have caries.

4. With regard to soft tissue disorders, gingivitis produced by plaque was found in 42.8% and a fissured tongue was found in 63.1%.

5. With regard to occlusion disturbances, 69.4% had a CIII bite, 32.4% had an anterior open bite, 32.4% had a posterior crossbite, and there was discrepancy regarding 32.4%

Ectopia was found in 12.1% of the patients and 18% had transposition.

6. Bruxism was observed in 48.7%

Comments: Our results agree with those published in the literature with regard to dental disorders (shape, size and number) and CIII malocclusion.

In this series the low incidence of gingivitis, periodontitis and caries was probably related to the prevention and follow-up programs at the hospital and the age of the patients.

3. DISTURBANCES TO DNA AS A RESULT OF ORTHODONTIC APPARATUSES

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Introduction: Metallic ions are released from the alloys used for making orthodontic apparatuses that can be captured by cells in the oral mucosa. These metals could have a toxic effect, disturbing cellular structures, modifying the permeability of membranes, affecting enzymatic activity, becoming involved in inflammatory and immunologic processes or interacting with the genetic material.

The object of our work was to study in vivo the cellular toxicity of the three metallic alloys used for manufacturing orthodontic apparatus.

Material and method: Stainless steel group (n = 5); nickel free group (n = 5); titanium group (n = 5). Twen-

ty braces and 4 tubes of each alloy were placed in children aged between 12 and 16 years. The tubes were placed in the first four molars and the brackets in the second premolars in the upper and lower arches. Samples were taken of the cells in the cheek mucosa immediately before cementing the brackets and tubes, and again 30 days later. The effect of the treatment on DNA was studied using comet assay and measuring the percentage of DNA in the comet tail.

In order to compare the groups a simple analysis of variance was used. If statistical significance was reached, two-by-two comparisons were carried out using the Tukey test.

Results: The percentage of DNA in the tail of the comet in the control group was of 47 ± 2.88 , and in the patients wearing the titanium brackets for a month it was 50.9 ± 6.63 . There were no significant differences between them. The greatest damage to the DNA in buccal mucosal cells was found in patients who had worn stainless steel and nickel free brackets as DNA percentages in the comet tail were of 61.09 ± 3 and 61.21 ± 5.56 , respectively. Both groups showed significant differences $p < 0.001$ with regard to the control group.

Conclusions: The cells of the buccal mucosa in contact with stainless steel and nickel free apparatus had higher DNA damage.

4. IMPERFECT AMELOGENESIS. A CASE REPORT

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Introduction: Amelogenesis is the process of enamel formation and it has two phases: 1) formation of the extracellular organic matrix; and 2) mineralization.

The structural defects of the enamel occur when there is a disturbance in these processes, with hypoplasia and hypocalcification being the most common.

The defect may occur as part of a generalized syndrome, as a hereditary defect affecting only the enamel (imperfect amelogenesis), or it may also be due to an environmental influence (environmental dysplasia).

Imperfect amelogenesis is not only defined as a disease on its own, but also as a group of heterogeneous disorders when there is an alteration in the enamel. It is hereditary by nature, and transmitted with a dominant, recessive trait, and it is even linked to the X chromosome. It has a prevalence of 1:14000 to 1.4:1000 and it affects primary as well as secondary dentition. It can be found in a single tooth, in a group of teeth or in all the teeth.

Case report: The case is presented of a male patient, aged 7 years and 8 months, who attended the Masters degree course in Pediatric Dentistry at the International University of Catalonia for a routine examination. After the anamnesis and clinical examinations had been carried out, imperfect amelogenesis was diagnosed of the hypomineralized type in both the primary and secondary dentition in both arches. After carrying out the usual radiographic tests (bite wing and orthopantomog-

raphy) carious lesions were diagnosed in the first four permanent molars.

Teeth 2.6 and 3.6 were obturated conventionally using composite resin. Due to the destruction of crowns in 1.6 and 4.6, metal crowns were decided upon after carrying out a gingivectomy. Once the restorative treatment had been carried out, periodic examinations were carried out every three months.

Conclusions: Early diagnosis and a multidisciplinary team are required to prevent the patient from losing orofacial function and for aesthetic improvement.

It is important for these patients to be examined every three months, and they should receive oral hygiene and prophylaxis instruction, together with topical fluoride application because of the high caries risk.

5. INFRA-OCCLUSION OF PRIMARY TEETH

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Introduction: Dental ankylosis is an eruptive anomaly that involves the anatomic fusion of the alveolar bone and the root cementum, which results in the disappearance of the periodontal ligament. When the vertical growth of the ankylosed tooth stops and the adjacent teeth carry on growing, the difference becomes more and more evident and the ankylosed tooth becomes infra-occluded.

The lower primary molars are more commonly seen with ankylosis. The numbers vary between 10-15% and there is no gender differentiation. Diagnosis tends to be during the early mixed dentition.

Among the etiological factors of ankylosis we will find: absence of the periodontal ligament (autosomal dominant inheritance), injury, excessive masticatory pressure, infections and inflammation of the periodontal ligament.

Case reports: We studied the cases of ankylosis diagnosed in the University Dental Clinic of Murcia from 2008-2010. *Case report 1:* An 8 year-old girl presented with ankylosed tooth 8.5 that was infra-occluded. A band and loop maintainer was placed which had to be changed after six months for a lingual arch as 4.6 was slanting. *Case report 2:* An 11 year-old boy presented with teeth 5.5 and 6.5 that were ankylosed and in infra-occlusion. This could not be appreciated clinically in tooth 6.5, but radiologically it appeared embedded between 1.6 and 1.4. These two teeth were so slanted the crowns actually touched. Tooth 6.5 was extracted and 1.5 erupted shortly afterwards. A removable plate was placed for 6.4 in order to achieve the distal movement of 1.6, the mesial movement of 1.4 and thus regain the lost space so that 6.5 could be extracted. *Case report 3:* a 9 year-old female patient presented with infra-occlusion of 7.4 and 7.5 because of the interposition of the tongue. The girl was sent to a speech therapist and she was fitted with a removable lingual mesh appliance.

Conclusion: Although there are different treatment options such as extracting the ankylosed tooth and placing a space maintainer, or keeping the tooth in the arch and reconstructing the crown so that normal occlusion is achieved, most of the cases of ankylosis should be

studied while taking into account the individual characteristics of each patient.

6. APEXIFICATION WITH MTA AS AN ALTERNATIVE TO CALCIUM HYDROXIDE

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Introduction: Apexification is a treatment that permits root-end closure in young permanent teeth with extensive pulp degeneration or total necrosis, so that endodontic therapy can then be completed. For many years, calcium hydroxide has been the material of choice, although MTA is currently being used successfully for this treatment.

Objectives: The aim of this work was to show the advantages of apexification in young permanent teeth with MTA as opposed to calcium hydroxide.

Material and methods: ten incisors with necrotic injuries underwent apexification. MTA was used in 5 incisors, and the other 5 were treated with calcium hydroxide. The teeth that were treated with apexification using calcium hydroxide had a mean treatment time of 18 months. The teeth that were treated with apexification using MTA had a mean treatment time of 20 days. Two weeks before obturation with gutta-percha, the canal was filled with calcium hydroxide. In both types a radiological examination was carried out at 3 months, 6 months and then at 1 year.

Results: Hard tissue formation was observed over the obturation material in the ten teeth treated.

Conclusions: Both materials can be considered efficient for treating necrotic teeth with open apices. Although the literature we consulted claimed that teeth treated with calcium hydroxide were more susceptible to crown-root fractures, we did not find secondary fractures in the teeth that were treated with apexification using calcium hydroxide. One of the advantages of MTA is that the apexification can be carried out in two visits and, as has been reported by some authors, in a single visit by placing an apical MTA plug, as this is a predictable and reproducible procedure.

7. DENTAL AVULSION AND REIMPLANTATION. A CASE REPORT

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Introduction: According to the classification system of the World Health Organization (WHO) modified by Andreasen, avulsion is classified as a lesion of the periodontal tissues, and it is defined as the complete separation of the tooth from the alveolus. Re-implanting the tooth may restore occlusal function and the aesthetic aspect after the lesion.

Case Report: Male patient aged 9 years and 11 months presented at the Integral Masters degree course

in Pediatric Dentistry of the International University of Catalonia after having been referred from the Sta. Tecla hospital (Tarragona, Spain) where he was diagnosed clinically and radiologically with: a) Avulsion of teeth 1.1 and 2.1, both with non-complicated crown fractures, b) Non-complicated crown fracture of tooth 2.2, c) Dento-alveolar fracture between teeth 1.1 and 1.2. The incisors were implanted and splinted with a semi-rigid splint at the hospital itself. **Treatment plan:** During the first visit the splint which had come loose was changed for a woven archwire and bite raise which were removed after a week. After two weeks vitality tests were carried out of teeth 1.1 and 2.1 with a negative result for both incisors, and root canal treatment was carried out with MTA. In a later examination at 6 months, positive percussion was diagnosed of tooth 1.2 and root canal treatment was carried out.

Two routine examinations were carried out after three months of tooth 1.1 and 2.1. The percussion tests were negative and the diagnosis was asymptomatic. A control was carried out at 6 months of teeth 1.2 and 2.2. The percussion tests were negative and the diagnosis was asymptomatic.

Conclusions: In addition to how much time elapses between avulsion and reimplantation, there are other factors that influence the clinical success of re-implantations such as: the degree of damage to the alveolar bone, tooth storage, management of the injury, etc. It should be kept in mind that when the tooth cannot be reimplanted within a short time frame, necrosis of the periodontal ligament and resorption by substitution may occur.

8. BIOCOMPATIBILITY OF MTA VERSUS PORTLAND CEMENT WITH TITANIUM DIOXIDE

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Introduction: Mineral trioxide aggregate (MTA) is indicated for various types of pulp treatment. Its base composition is Portland cement with Bi_2O_3 . Titanium dioxide is a whitening pigment that is used in the field of medicine and dentistry. It is said to have biocompatible and radiopaque properties, as does bismuth oxide, but it has the potential to improve the properties of the cement on whitening it, improving color and increasing resistance, which is an indicator of the quality and longevity of the cement.

Objectives: The objective of this study was to evaluate the cytotoxicity of white Proroot[®] MTA, and 4 other prototypes, based on Portland cement to which different percentages of titanium dioxide were added of 1%, 10%, 20% and 30% respectively.

Material and methods: A study on cytotoxicity was carried out in a cell culture of L929 fibroblasts, of MTA and of 4 prototypes based on Portland cement with 1%, 10%, 20% and 30% TiO_2 respectively.

Results: The prototypes with TiO_2 added to the Portland cement showed acceptable cellular viability. The prototype with 30% TiO_2 had the best biocompatibility

with titanium dioxide of all the prototypes. (Patent under request Ref: P 200931162).

Conclusions: Cellular viability regarding the TiO₂ prototypes was acceptable, but it would have been better had there been better control of variables such as osmolarity. Further studies on the subject are therefore necessary.

9. BABY BOTTLE CARIES OR DENTAL NEGLIGENCE?

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Introduction: Pediatric dentists attend very young children daily in their consultation rooms and on some occasions they may have extensive and very characteristic pathologies such as the so called baby bottle caries. When this occurs, dentists should ask themselves whether the problem is not just pathological, because they may be before a case of a parent abandoning the oral care of their children, and they should ask themselves if it could be a case of dental negligence. However, as dentists we should again ask ourselves if perhaps the parents or tutors have failed to receive adequate information.

Objectives: The objectives of this presentation were to question whether the oral state of our children is a chance occurrence, or if there is a type of child abuse called dental negligence, or if the parents or tutors of our patients are simply lacking information.

Material and methods: In order to give this presentation, a search was carried out of the databases of Medline, PubMed and of university archives.

Conclusions: We should keep in mind that abandoning the oral health of our minors is a sign of ill-treatment called dental negligence. Dentists should inform their patients' representatives of the existence of the pathology and of the importance of receiving treatment.

10. EARLY CHILDHOOD CARIES: A CURRENT HEALTH PROBLEM

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Introduction: Early childhood caries (ECC) is defined, according to the American Academy of Pediatric Dentistry, as the presence of one or more decayed, missing or filled teeth in the primary dentition, in preschool-aged children, that is, between birth and 71 months. Etiologically it is related to prolonged maternal lactation, use of feeding bottles, milk or any sugary liquid, use of a sweetened pacifier and bad nutritional habits.

Of all the dental problems, caries is the disturbance most affecting the primary dentition and pediatricians, dentists, and all health workers dealing with children can help to prevent its appearance and therefore, the physical, psychological and economic consequences that ECC causes.

Objectives: Revise the etiology of ECC and to highlight the increase in the prevalence in a certain sector of the population, collecting statistics on the children with early childhood caries who visited for the first time the Department of Pediatric Dentistry of the San Rafael Hospital between September 2009 and April 2010; and, to alert and inform health professionals working in the area of pediatrics of the importance of preventing this pathology.

Material and methods: A complete clinical history with detailed anamnesis was carried out together with clinical and radiographic examinations and a dietary analysis of the patients in the sample. A revision of the literature was carried out on the subject in Pubmed and Medline of the articles published between 1999 and 2010, using the keywords "bottle caries, rampant caries, early childhood caries, caries and breastfeeding"

Conclusions: An increase in the prevalence of early childhood caries was noticed in children that were very young with the etiology being strongly linked to dietary habits. All the professionals involved in child care should reevaluate their attitude to this disease, and parents should be informed on prevention and the solutions to this problem.

11. EARLY CHILDHOOD CARIES. A STUDY OF ITS MAIN CAUSES

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Introduction: "Early childhood caries" is a special type of caries affecting very young children that is related to dietary errors that start on the eruption of a baby's teeth.

Objectives: Our aim was to analyze the causes of this caries in a population in the south of Galicia.

Material and methods: The sample was made up of 43 boys and girls under the age of 5 with early childhood caries, who attended a specialized pediatric dentistry clinic. Detailed anamnesis was carried out that was aimed at finding the cause.

Results: 26 breastfeeding on demand (61%); 6 feeding bottle at night (14%); 6 sugared juice as a water substitute (14%); 4 pacifiers impregnated with honey or sugar (9%); and 1 inhalers (2%).

Conclusions:

1. Amelogenesis and other congenital defects regarding tooth development should be differentiated.
2. A cause for this type of caries can always be found.
3. Informing parents is always the best form of prevention.

12. RESISTANCE COMPARISON OF PORTLAND CEMENT WITH BI₂O₃ VERSUS TiO₂

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Introduction: MTA is used in various pulp treatments, for pulpotomies of primary teeth and in apical formation of immature teeth. It has great qualities, but it also has a series of disadvantages such as its high cost, low compression resistance, and it stains the crown of the tooth when applied.

Objectives: The objective of this study was to consider titanium dioxide (TiO₂) as an alternative to bismuth oxide (Bi₂O₃) which is added to Portland cement in the MTA composition. Like bismuth oxide, titanium dioxide is a biocompatible pigment and it is radiopaque. Unlike the latter, it is a whitening pigment, not yellow, and it can potentially increase the compression resistance of the cement. Titanium dioxide is already used in the field of medicine and dentistry, forming part of medicines such as oral antihistamines or of cements such as Sealapex®, etc.

Material and methods: Prototypes were carried out with different TiO₂ percentages and resistance was studied according to the UNE EN 196-1 regulation: Method for cement trials, determination of mechanical resistance.

Results: It was observed that TiO₂ increased the compression resistance of the cement, and that values nearly doubling those published for MTA were achieved. On the other hand, Bi₂O₃ reduced the resistance of the cement (Patent under request n° 200931162).

Conclusion: The resistance, quality and longevity of cement are improved when TiO₂ is added to it.

13. INTRACELLULAR CONCENTRATION OF METALS FROM ORTHODONTIC APPARATUSES

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Introduction: Orthodontic treatment requires keeping metal brackets in the mouth for an average of two years. Although brackets are made with resistant alloys, the oral cavity is a potentially corrosive medium: sharp changes in pH and temperature, presence of bacterial plaque and its byproducts, high concentrations of chloride ions. The release of metallic ions from these materials, as a result of localized corrosion, could generate an increase in intracellular concentration in the oral mucosal cells that are in contact with the brackets.

The object of our work was to measure the metal contained in the cells, which are in contact with the brackets and tubes that are used in orthodontic treatment.

Material and methods: Stainless steel group (n = 5); nickel-free group (n = 5); titanium group (n = 5). Twenty brackets and 4 tubes of each alloy were placed in children aged 12 to 16. The tubes were put in the first four molars, and the brackets between the second premolars of the upper and lower arch. Samples of buccal mucosa cells were taken immediately before cementing the brackets and tubes and 30 days later. The intracellular concentration of titanium, chrome, manganese, iron, cobalt, nickel and molybdenum were measured. The concentration of the metals appeared in the range of µg/l.

Results: The buccal mucosa cells of the patients before the cementing of the orthodontic tubes and brackets contained the following metallic ions: Ti⁴⁷ 0.98 ± 0.64, Mn⁵⁵ 0.32 ± 0.50, Mo⁹² 0.13 ± 0.35, Fe⁵⁶ 1.95 ± 2.29 and Ni⁶⁰ 3.44 ± 9.79.

The cells of the patients who wore the stainless steel tubes and brackets had higher levels than the manganese (Mn⁵⁵ 1.08 ± 1.57) and titanium (Ti⁴⁷ 3.04 ± 2.67) control groups.

More chromium was detected in the mucosal cells of the patients in the nickel-free group (Cr⁵² 0.34 ± 0.59) and more iron (Fe⁵⁶ 5.36 ± 7.44).

The cells in contact with the titanium tubes and brackets for a month showed no internal composition changes of the metallic elements that were measured.

Conclusions: The cells in the buccal mucosa are able to incorporate metallic ions that disseminate from the orthodontic apparatuses.

14. AESTHETIC CROWNS IN PRIMARY MOLARS. PRELIMINARY RESULTS

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Introduction: Metallic crowns are considered to be the ideal restoration material for primary molars after pulp treatment, but they have one great disadvantage; they are unaesthetic. Aesthetic crowns for primary molars have been on the market since the 1990's, but their clinical success is still not widely accepted.

Objective: To determine and compare the retention, resistance to wear, gingival health and satisfaction of parents after the placement of preformed metal crowns and preformed metal crowns with an aesthetic front in primary molars.

Material and methods: The sample was made up of 14 primary molars of patients who were seen at the University Dental Clinic of the International University of Catalonia. The inclusion criteria were: primary molars that had received pulp treatment (pulpotomy/pulpectomy), extensive restoration for caries, lost crowns or hypomineralized primary molars. Each patient was randomly fitted with a crown of each type, and the sample was made up of 7 molars in the control group (metal crowns) and 7 molars in the experimental group (aesthetic crowns).

Before the pulp treatment, gingival health was registered using the *Löe and Silness* index and a clinical and radiological examination was carried out of the molar. The molars were completely isolated using conventional techniques and carved. Both crowns were cemented with glass ionomer cement. After they had been placed, the crowns were examined radiographically and the parents were given a questionnaire to evaluate their satisfaction. Three months later, the clinical and radiographic examination was repeated and the parents were given a new questionnaire.

Results: The preliminary results indicated a high level of satisfaction among parents with regard to aes-

thetic crowns, as these had better results than the metal crowns with regard to color and appearance. The results were not statistically significant with regard to preferences regarding shape and size of the crowns. Changes at a periodontal level were not observed in either of the groups. Most of the crowns in both groups showed good marginal adaptation clinically and radiographically.

Conclusions: Aesthetic crowns for primary molars seem to be the best option for total coverage restorations, as they are aesthetically more acceptable to parents.

15. EARLY DIAGNOSIS OF OBSTRUCTIVE SLEEP APNEA SYNDROME IN CHILDREN

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Introduction: Between 1% and 3% of the child population suffers from *Obstructive Sleep Apnea Syndrome (OSAS)*. However, it is very common for this pathology to go unnoticed as we do not have a proper system to guarantee an early diagnosis.

Clinically the patient with OSAS suffers from a rest-less sleep, snoring and on occasions diaphoresis, enuresis and nightmares. During the day the child may suffer drowsiness, morning headaches or behavior disturbances.

The conventional Polysomnography (PSG) is currently the method used to diagnose OSAS. A medical history (anamnesis and clinical examination) on its own, if taken correctly, has a 26% chance of detecting a patient with OSAS. If a specific questionnaire is then filled out, this rises to 53%.

Objective: Our aim was to design a questionnaire to be filled in by parents to enable the early detection of OSAS in children.

Material and method: We have developed a multiple choice questionnaire with 25 questions. The questionnaire will be given to children aged 4 to 16 years who attend pediatric departments, especially pediatric dentistry departments. It will always be answered by the parents, who will be instructed to give proper answers. The questions can be answered on the spot, or at home at a later date, after the parents have observed what there are being asked about.

The questionnaire is made up of 2 parts and 25 questions:

– Part I. State of the child: in this part we aim to take a complete medical history using questions that help to diagnose SAHS in Children correctly. The responses can be YES or NO.

– Part II. The child during the day and at night: this section is to evaluate the degree of SAHS that the child has, and each question will match one of the most common symptoms. There are four possible responses: *always, often, sometimes* and *never*.

Conclusions: We believe that after its validation, the questionnaire will become a method for OSAS screening in children and that it will be regularly used in pediatric consultation rooms.

16. SUPERNUMERARY TEETH: CLINICAL CHARACTERISTICS AND ASSOCIATED DENTAL DISTURBANCES

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Introduction: Supernumerary teeth or hyperdontia is defined as an excess in the normal number and configuration of primary or permanent teeth. The prevalence reported varies between 1.5% and 3.5% in the permanent dentition, with a greater incidence in males. In the upper jaw it appears most frequently between the incisors, and in the lower mandible in the premolar region. The etiology is still unknown, and a “localized hyperactivity theory” is accepted that is independent of the dental lamina.

Objective: We aimed to study the characteristics and disturbances associated with supernumerary teeth.

Materials and methods: Prospective study of a sample of 71 patients with supernumerary teeth who were attended between 2004 and 2009 at the Sant Joan de Déu hospital Barcelona. General information was taken with the diagnosis and, after the extractions, 6 month periods were programmed for assessing eruption.

An assessment was made of: 1) the age at diagnosis, 2) gender of patient, 2) data related to the supernumerary tooth: number, shape, location in the arch and relationship with the permanent successor tooth (low, middle and low) and 4) disturbances in the position and eruption of the permanent teeth.

Results: The mean age at diagnosis was 9.49 years (range 6-14 years). Males made up 70% of the sample and females 30%. There was just one supernumerary tooth in 65% of cases, two in 27%, three or more in 8%. The location of the supernumerary tooth in the anterior region of the maxilla occurred in 91% of cases and 9% were in other regions. The most common shape was conoid in 53.3%, supplemental in 16%, tubercular in 14%, dysmorphic in 9.8%. With regard to the most prevalent position of the tooth involved, this was the lower position in 46% of cases, followed by a middle position in 25%. In 60% of cases there were eruption disturbances, and of these 65% were due to delayed eruption, and 18% to severe ectopic eruption.

Conclusions: In this study the most common supernumerary tooth was conoid and located in the upper jaw. The male sex was particularly affected and the percentage of eruption disturbances was high. It is important to emphasize that the mean age at diagnosis was 9 years, and that this is somewhat late, as the mean should be around the age of 7. We believe that early diagnosis of supernumerary teeth cases implies early treatment, which will reduce any complications.

17. WHERE IS THE BOUNDARY BETWEEN ORTHODONTICS AND PEDIATRIC DENTISTRY?

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Introduction: The new law on dental specialties will be a landmark in our daily practice as dentists and pediatric dentists. New postgraduate pediatric dentistry courses are emerging in which interceptive orthodontic treatment forms an important part of the program. This scenario raises a question that has, in fact, brought us here. Interceptive orthodontics aims to offer the patient the most beneficial treatment with the least biological and economic costs. The age at which orthodontic treatment should be started has always been controversial. The range of therapeutic options that is available for managing the mixed dentition, which plays an important part in interceptive orthodontics, is encompassed on a daily basis in pediatric dentistry. In view of this, the controversy as to when treatment should be started is greater for orthodontists than for pediatric dentists.

Objectives: Our aim is to encourage debate on the where the boundary lies between pediatric dentists and orthodontics.

Material and method: A search was carried out in PubMed and Medline with the keywords: Interceptive orthodontics, mixed dentition, lost space and orthopedics.

Conclusions: Pediatric dentists, according to their training are able to treat eruption disturbances, manage space in the mixed dentition, and diagnose and act when faced with an orthopedic problem. Pediatric dentists also have a more global concept of the needs of their child patients, as an initial clinical history may not immediately alert us of certain external factors that sometimes arise, given the behavior of the child once restorative treatment has been started.

The orthodontist can set the treatment objectives with precision for the first phase, particularly in those cases in which a second implementation stage is needed.

18. THE EFFECTIVENESS OF PRESENTATIONS ON PEDIATRIC ORAL HEALTH FOR CHILDREN

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Introduction: More than 50% of children aged between 0-3 years experience dental caries. This disease affects the general population, but it has been proved to affect children 32 times more with a low socioeconomic status, who have mothers with a low education level, and who consume sugary products. There are studies that conclude that videos or presentations on pediatric oral health shown to parents are an effective tool for instructing the latter and educators on caries prevention in the pediatric population.

Objectives: To evaluate the effectiveness of a presentation on pediatric oral health directed at parents in a primary school using a questionnaire.

Material and methods: The subjects were parents who had children at a primary school in the borough of Burjassot, a province of Valencia. The participants in the study were men and women with children between the ages of 0 and 3 years. A power-point presentation lasting one hour on pediatric oral health for parents was

shown at the center. After the presentation, the parents were given a questionnaire with 28 questions that was divided into two parts; one part for the parents not participating in the presentation and the other for the parents participating in the presentation on pediatric oral health.

Results: Fifty parents participated in the study. Of these, 100% reported that they had never taken their child to a dentist and 100% said that these presentations were very effective, and that after taking part in them they would give more importance to their children's oral hygiene. The parents who had not attended the presentation were unable to define neither a pediatric dentist nor why fluoride and fissure sealants were used, quite the opposite of the parents who had attended the presentation. All agreed that these presentations should be made by a specialist in the field.

Conclusions: This pilot study shows the effectiveness of a Power-Point presentation lasting 60 minutes for improving parents' knowledge on their children's oral health. Most parents reported that the presentation was very useful and they said that the information they had gained was going to change the way they cared for their children's teeth at home.

19. SURVEY ON THE TEACHING AND USE OF MTA IN PEDIATRIC DENTISTRY

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Introduction: The first article on Mineral Trioxide Aggregate (MTA) was published in the year 1993. In 1995 Torabinejad et al. published various articles on this same material. A PubMed search at the end of January 2010 revealed 644 articles on MTA, but a search on "Mineral Trioxide Aggregate and Teaching" produced no articles at all.

Objective: To determine if undergraduate Dentistry students and postgraduate students of Pediatric Dentistry are taught in the Dental Faculties of Spain the properties and uses of MTA in pulp treatment for primary dentition and young permanent dentition.

Material and methods: A questionnaire was distributed in January 2010 when a total of 664 articles could be found in PubMed. The questionnaire was sent to 13 Spanish public and private universities that included degrees in Dentistry in their teaching programs. The questions were grouped into large categories such as: teaching on MTA use, preclinical practice with MTA, observation regarding its clinical usage, opportunities for clinical usage, materials used routinely in specific procedures.

Results: All the universities responded to the questionnaire. All replied that they had a department or unit dedicated to Pediatric Dentistry. All pre- and postgraduate students are taught the uses of MTA. Three of the universities reported that pre-graduate students had the possibility of using MTA in preclinical studies, but in none of the universities was it used in clinical practice. Not all the centers that were sent the questionnaire had

postgraduate studies, but those that did have postgraduate programs reported that students did use MTA in clinical practice. The material of choice for capping pulp directly and indirectly in the young permanent dentition was calcium hydroxide. Formocresol was the material of choice for primary dentition pulpotomies among postgraduate students, and MTA for postgraduate students.

Conclusions: The use of MTA in pediatric dentistry has been introduced into pre-graduate and postgraduate programs in the Faculties of Dentistry in Spain, but in a limited fashion,

20. EPIDERMOLISIS BULLOSA: MULTIDISCIPLINARY TREATMENT IS NEEDED

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Introduction: Epidermolysis bullosa (EB) refers to a group of hereditary diseases with various features from very mild to others more serious that affect the skin and mucosa, causing the formation of blisters and erosion after minimal trauma, and which will in some cases affect other organs. It is a chronic disorder with no specific treatment, and it undermines the quality of life of patients and their survival. It is a challenge for those affected, their family and the professionals attending them.

As it is a disease with a low prevalence, health professionals tend not to have much experience of it and do they have the sufficient training to enable a suitable approach in relation to the diagnosis. They are not familiar with the specific care required, or with the follow-up needed by these patients and their carers.

Objectives: The need for greater knowledge of this disease by health professionals that are to some extent involved in treating these patients led to the creation of the *First National Day of Epidermolysis Bullosa* which was held in Madrid in the Niño Jesús Hospital on 14 January 2009.

Material and methods: In these first meetings 8 patients were studied with different types of epidermolysis bullosa. These 8 patients were examined by different specialists (ophthalmologists, dermatologists, plastic surgeons, nutrition specialists, etc.) and, being dentists, we were among them.

An evaluation was made of these 8 patients, and their oral disturbances were recorded. Each patient was given recommendations and advice on oral health.

Results: The results of the whole study are still not available, but we will present the more frequent lesions in this type of patient and the preventative and the therapeutic measures that can and should be carried out, taking into account the pathology.

Conclusions: One of the most important conclusions from these meetings is the need for collaboration between all the professionals involved in treating this disease and the benefits of having efficient communication channels. The relationship between patient associations and health professionals is also important.

21. COMPARATIVE *IN VITRO* STUDY ON MICROFILTRATION IN COMPOMERS AND COMPOSITES IN CLASS II CAVITIES

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Introduction: Compomers were introduced in 1990 as an ideal material for the restoration of primary teeth, as they share characteristics with glass ionomers and composites. This material combines the traditional aesthetic appearance of composites with the fluoride release and adhesion of glass ionomers.

Objectives: To evaluate and compare the microfiltration of the Dyract-Extra[®] compomer and Evo Tetrac[®] composite in class II cavities in primary molars.

Material and methods: 36 extracted primary molars were divided into 2 groups (A and B) according to the type of restoration material used. Each group was then divided into three subgroups according to the adhesion system. *Group A1:* compomer and self-etching adhesive. *Group A2:* compomer and two-step adhesive. *Group A3:* compomer and three step adhesive. *Group B1:* composite and self-etching adhesive. *Group B2:* composite and two step adhesive. *Group B3:* composite and three step adhesive. After placing the different adhesive systems and the restoration materials, resin replicas were made of all the teeth which were viewed under an electronic microscope. The teeth were then thermocycled in water (for 3000 cycles between 5° y 55°C) and stained with 2% methylene blue stain for 48 hours. When the thermocycling had finished, replicas were made of the teeth which were again viewed under an electronic microscope. Finally, each sample was photographed with a stereomicroscope and six researchers carried out a double blind evaluation of the microfiltration. *Statistical analysis:* The ANOVA test was applied with a significance level of 95% using the statistical program Statgraphics Plus[®] version 5.1.

Results: Statistically significant results were not found ($p > 0.05$) in class II cavities with the application of etch-and-rinse adhesives in composites as well as compomers. Statistically significant differences were found ($p > 0.05$) with the self-etching adhesives, and there was more microfiltration in the cavities where composites had been used.

Conclusions: Microfiltration of both the materials, compomers and composites, was similar when the etch-and-rinse technique was used as an adhesive. However, when the self-etching adhesive was used the compomers showed less microfiltration.

22. RETROSPECTIVE STUDY OF PULPECTOMIES IN PRIMARY TEETH

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Introduction: Pulpectomies started being carried out in 1932 so that individual teeth could be used as guides

for their successors. This treatment can be justified given that it has many indications. However, there is certain controversy given the technical difficulty of pulpectomies and prognosis being reserved. It was because of this that we decided to carry out a retrospective study of the pulpectomies carried out in the postgraduate course in Pediatric Dentistry at the San Rafael Hospital from January 2006 to January 2008.

Objectives:

1. To evaluate the efficiency of pulpectomies carried out in both anterior and posterior teeth.
2. To establish the factors influencing success or failure.

Material and methods: The medical histories of 141 patients of the department of Dental Stomatology of the San Rafael Hospital were examined. A total of 83 medical histories were excluded as a result of no follow-up for 24 months. A total of 173 pulpectomies were examined that had been carried out between January 2006 and 2008.

All the pulpectomies were carried out using the protocol of the Pediatric Dentistry postgraduate course of the San Rafael Hospital (isolation, 5.25% sodium hypochlorite as an irrigant, KRI-1 as obturation material, and regular check-ups over 24 months).

Results: Of the 84 pulpectomies that were valid according to the criteria of the study, 41.6% were in anterior teeth and 58.4% in posterior teeth. With regard to the anterior teeth 71.4% of the pulpectomies were successful and 28.6% failed. However, in the posterior teeth 44.9% of the pulpectomies were successful and 55.1% failed.

Conclusions:

1. The prognosis of pulpectomies in the anterior region is favorable.
2. The prognosis in the posterior region is variable and more dependent on factors such as: degree of dental destruction, seal on crown, skill of operator.
3. More exact studies that follow a protocol are needed in order to evaluate the factors influencing the success or failure of pulpectomies.
4. Clinical success was considered to be a tooth with no symptoms remaining in the mouth, favoring clinical situations where on the one hand the first permanent molar was intraosseous and, on the other, the maturing and psychological development of the child.

23. IN VITRO EVALUATION AND COMPARISON OF A HYDROPHILIC PIT AND FISSURE SEALANT

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Introduction: Pit and fissure sealing is a way of preventing caries from starting and of stopping its progress. A physical barrier is provided that inhibits microorganisms and food particles that accumulate in the pits and fissures. The correct adhesion of the sealant to the enamel is of great importance in order to avoid microfiltration and posterior treatment failure, given that this technique is very sensitive to salivary contamination.

As a result of this, new sealant materials that are compatible with the presence of saliva or humidity have emerged.

Objective: To evaluate and compare the microfiltration of the pit and fissure sealant Embrace™ WetBond and the adhesive OptiBond™ FL in different application conditions, humid and dry, before and after thermocycling.

Materials and methods: A total of 64 extracted secondary molars were included in the study. The sample was divided into two groups. Group 1: application of the adhesive OptiBond™ FL as a pit and fissure sealant; group 2: application of the sealer Embrace™ WetBond™. Both groups were in turn subdivided into two groups according to the application conditions (humid or dry conditions). Half the sample then underwent 500 cycles of thermocycling. A microfiltration analysis was carried out using an optic microscope with a resolution of 40X, using a double blind technique (4 participants). *Statistical analysis:* The ANOVA test was applied with a significance level of 95% using the statistical program Statgraphics Plus® version 5.1.

Results: Statistically significant differences between both the materials were not found ($p > 0.05$) but differences were found between the application conditions ($p < 0.05$), as there was greater microfiltration of both materials in the presence of saliva.

Conclusions: The results of this study show that microfiltration was greater in the presence of saliva with the materials Embrace™ WetBond and OptiBond™.

24. MULTIDISCIPLINARY STUDY OF THE CHILD POPULATION WITH AUTISTIC DISTURBANCES

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Introduction: Autism is a childhood syndrome considered by some as one of the most incapacitating and strange disorders to be found in humans. It is basically characterized by a complex disorder regarding language and social skills, and a development of compulsive, persistent rituals and a resistance to change.

After an analysis of the current state of the disorder, the following hypothesis was formed: Do the psychological and orodental characteristics of the child with autism represent an oral health problem requiring specific intervention?

Objectives: The general objective of this work was to bring pediatric dentistry procedures closer to children with autistic disturbances, and to study not only the orodental needs of these children, but also the possibility of developing special behavior control techniques to enable these children to accept medical intervention.

Material y methods: Of all the children at a Special Education Center in the Community of Madrid, a sample was selected according to the inclusion-exclusion

criteria established. Protocols were adopted regarding previous desensitization, in conjunction with the Special Education Center. The analysis of the orodental state of the children in the sample was carried out in this way.

Results: According to the results in our study, in order to carry out dental procedures, the use of desensitization before any clinical procedure whatsoever is essential. In addition, specific programs regarding the oral health care of autistic patients should be integrated into the usual protocols of special education centers.

Our study agreed with those of other authors, as our results indicated that, in general, children with autistic disturbances do not have a specific orodental pathology associated to this syndrome, although the results of the questionnaire that were used in this investigation indicated a series of habits that are potentially incompatible with having suitable levels of oral health.

Conclusions: We believe that carrying out future investigations in this area is of great importance in order to improve the oral health of children with autistic disorders

Project financed by the Fundación Mutua Madrileña.

25. FACTORS ASSOCIATED WITH THE ERUPTION OF PERMANENT TEETH RETAINED BY SUPERNUMERARY TEETH IN THE MAXILLA

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Introduction: The presence of supernumerary teeth (ST) is commonly associated with eruption disturbances of the permanent teeth. A late diagnosis predisposes the patient to ectopic teeth and even eruption fractures. But, not always do the teeth with eruption disturbances erupt following treatment and the extraction of the supernumerary tooth.

Objective: To analyze the factors related to the spontaneous eruption of permanent teeth after the extraction of supernumerary teeth.

Materials and methods: We conducted a prospective study with a sample of 71 patients with non-erupted supernumerary maxillary teeth from 2004-2009 in the San Joan de Déu Hospital in Barcelona. After the extraction of the supernumerary tooth, a six month delay was observed in all the patients followed by radiological examinations to confirm the eruptions.

A diagnosis showing no changes in eruption led to active therapy with an orthodontic apparatus. Different variables were evaluated that were related to spontaneous eruption: age, sex of the patients and eruptive disturbances of the permanent tooth.

With regard to the ST: the location, shape, position and root development were observed according to Nolla stages.

Results: Seventy one patients (50 boys and 21 girls) aged between 6-14 years (mean age = 9.49 years). Eruption disturbances were evident in 60% of cases. After

having carried out the extraction of the ST, there was spontaneous eruption in 55% of cases and eruption failure in 45%.

The greatest percentage in erupted teeth (62%) was associated with a conoid shape, to ST extraction in children aged 6-8 years and to root development according to Nolla \leq of 7.

Conclusions: In this study were able to observe that extractions carried out in ST teeth (with a conoid shape) between the ages of 6-8 years, with permanent teeth at Nolla stage 7, is associated with good prognosis of the retained permanent tooth. Eruption failure was associated with late intervention, root resorption that had concluded and an ectopic position.

26. THE INFLUENCE OF PARENTAL HABITS ON THE ORODENTAL HEALTH OF CHILDREN

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Objectives: The objectives of this study were to assess the influence of parental hygienic habits on the orodental health and hygiene of their children.

Material and methods: A total of 232 children aged 4-8 years, living in Alcorcón, were included in this study. Parents were given a questionnaire from which data were collected on the hygiene and dietary habits of the child and on the regularity of visits to the dentist. Information was also obtained on the sociodemographic variables and on the hygiene habits of the parents. After obtaining informed consent, an intraoral examination was carried out of each child. The chi-square test was used to analyze the results.

Results: The caries rate of the children with the knowledge variables of the parents on brushing techniques, brushing frequency and periodic examinations of the parents were statistically significant ($p < 0.05$). The level of education of the parents was not significantly associated with brushing frequency of the children ($p \geq 0.05$).

Conclusions: The hygiene habits of parents and their orodental health influences the oral health of children.

27. HYPOFOSFATASIA

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Introduction: Hypophosphatasia is a combination of diseases, due to an error in calcium metabolism, which are characterized by defective bone and tooth mineralization. The etiology is genetic, and it affects both sexes equally.

Six types of hypophosphatasia have been distinguished: Perinatal form, Congenital lethal hypophosphatasia, Infantile or Childhood form, Benign prenatal form, Mild or Juvenile form, or Late hypophosphatasia, Adult form and Odontohypophosphatasia. The clinical

manifestations of this pathology are very variable: intrauterine death, skeletal hypomineralization, spontaneous fractures, bone pain and bone lesions similar to rickets; the earlier the onset of the disease, the more severe the manifestations.

The oral manifestation that is most characteristic of hypophosphatasia is the premature loss of primary teeth with no inflammatory response. It is thought that the etiology is due to disturbances in the mineralization of the cementum. Intraoral radiographies show alveolar bone destruction, taurodontism and irregular dentine calcification. Histologically cementum disturbance can be observed. There are very few studies regarding involvement of the permanent dentition. Diagnosis is based on clinical and radiological findings, laboratory and genetic tests.

Dental treatment tends to involve, the extraction of primary teeth showing considerable movement or that are causing discomfort, oral hygiene instruction, plaque control and root planing and scaling. The prosthetic replacement of lost teeth can be carried out when considered necessary. In addition to the former, in the permanent dentition, periodontal surgery may be prescribed for the more affected areas in addition to a close follow-up.

Objectives: Our aim was to describe the more relevant disturbances in hypophosphatasia and to establish the dental management for these patients.

Materials and methods: Systematic search in the data bases of Medline, PubMed, Web of Knowledge in a timeframe extending from the year 2000 to the present. Articles in English and in Spanish have been included. For this the following keywords were used: hypophosphatasia Odontohypophosphatasia, alkaline phosphatase, dental cementum alteration.

Conclusions:

1. Hypophosphatasia is a disease with a genetic base. The pathognomonic sign at an oral level is the premature loss of primary teeth.

2. Dentists and pediatric dentists should be able to detect it and the patient should be referred to a specialist in order to establish a correct diagnosis of the disease.

3. The management of these patients is based on the extraction of primary teeth showing considerable mobility or that cause discomfort, as well as prosthetic replacement if considered necessary by the professional. Nevertheless, attempts should be made to keep the remaining teeth in place as long as possible. Regular and exhaustive examinations should be carried out, together with plaque control and periodontal treatment when necessary.

28. HYPOPLASIA IN THE PRIMARY DENTITION: IN SEARCH OF PREVENTION

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Introduction: Primary teeth start forming in the seventh week of intrauterine life with the formation of the lower central incisor and it ends in week 24 approximately with the calcification of the second primary

molar. It is therefore in this period that greater preventative measures and controls of pregnant women should be taken in order to prevent hypoplasia and structural defects in the enamel.

As in prevention issues, we believe that proper diagnosis, control and early treatment is of maximum importance for this type of defect. These should be aimed at acquiring proper hygiene habits and avoiding the appearance of secondary caries, nutrition difficulties and/or the development of fears and inappropriate behavior in the pediatric dentistry office.

Objectives: To identify the possible etiological factors that are most common, which cause structural disturbance in the primary dentition, and to develop prevention protocols for these anomalies. And, to inform other professionals dealing with pregnant and lactating women so that the possible risk factors of the lesions can be minimized and the consequences controlled should they arise.

Material and methods: a specific health questionnaire was presented to all the new patients attending the Department of Pediatric Dentistry at the San Rafael Hospital in Madrid from September 2008 to date, and who had lesions that were compatible with enamel hypoplasia. After analyzing the results, the more relevant etiologic factors were deduced and preventative measures were taken. Control and risk minimization strategies were developed that were put on an information leaflet for pregnant women and for professionals dealing with them or with nursing babies.

Partial results: There is a possible relationship between structural lesions of the enamel in the primary dentition and mothers taking medication during their pregnancy: 9.85% were associated with taking antibiotics, 19.71 with pain killers and 4.22% with other drugs. We also found a link with other diseases of the mother during the pregnancy (14.08%) and with stress (12.6%).

Conclusions:

1. Carrying out further studies in order to investigate the possible factors causing the disease is necessary.

2. The intake of medication during pregnancy, as well as stressful situations for the pregnant woman, is strongly associated with the appearance of hypoplasia and hypomineralization in the primary dentition.

3. The importance of health workers having more precise knowledge of these problems should be highlighted in order to minimize the possible risks during pregnancy.

29. INFLUENCE OF CHLORHEXIDINE IN ADHESION

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Introduction: MMPs are proteases responsible for the extracellular breakdown of the matrix components of connective tissue. These MMPs are present in the

remaining dentine, after caries have been eliminated, and they may be responsible for a lack of stability and for the early breakdown of the hybrid layer. The application of an agent that inhibits MMPs such as chlorhexidine may therefore contribute to the stability of the hybrid layer, thus increasing the adhesion force.

Objective: Our aim was to assess the effect of chlorhexidine digluconate on micro-tensile strength and on the hybrid layer of caries-free dentine that was bonded with etch-and-rinse adhesive.

Materials and methods: A search was made in the PubMed database and in the Cochrane library of international journals that had been included in the "Journal Citation Report", and in national magazines. The keywords used were: chlorhexidine, micro-tensile, matrix metalloproteinase. Searches in books were also carried out.

Conclusions: The presence of MMPs in dentin matrix is of academic interest. Dentists need to understand the biochemistry of these enzymes and how these can respond to dental adhesive procedures and products.

30. THE INFLUENCE OF THERAPEUTIC EXTRACTATIONS ON MOLAR ANGULATION

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Introduction: The eruption of molars depends mainly on the space existing in the posterior section of the arches, but there are other influential factors: the natural growth of the child, orthodontic treatment carried out... Many studies have shown that on pushing back the molars, when therapeutic extractions are not carried out, the space in the retromolar region is reduced, and the third molars then impact. However, when premolar extraction is carried out, the retromolar space increases due to the mesial movement of the first and second molars. The same authors conclude that in addition to increasing the space in the region of the third molar, improved angulation of this tooth is also observed with regard to the occlusal plane, as it becomes more vertical and close to this plane.

Objective: The objective of this work was to study the influence of extracting teeth, during orthodontic treatment, on the angulation of third molars.

Material and methods: Seventy six mouth quarters of 19 patients (8 boys and 11 girls) were included. The quarters were divided into those that had undergone therapeutic extractions (group 1, n = 28) and those that did not have extractions (group 2; n = 48).

All the patients had an orthopantomography before and after the orthodontic treatment. The radiographies showed the following angles: those formed by the third molar axis with the second and first molar, and these three with regard to the midline.

The difference between the angles before and after the orthodontic treatment was then found. Lastly, a comparison was made between the groups. A T-test was carried out and significant differences of $p < 0.05$ were found.

Results: No significant differences were found in the values analyzed.

Conclusions: According to our results, the extraction or not of premolars during treatment, may influence the retromolar space, but it does not affect the angulation of the third molars. It should be kept in mind that the effects produced by orthodontic treatment in the angulation of teeth are superimposed by the changes that occur during the natural growth of the child.

31. CHILD ABUSE IN THE AUTONOMOUS COMMUNITY OF MURCIA

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Introduction: Very few studies have been published in the area of pediatric dentistry regarding child abuse. As health workers we are one of the most important links for detecting and notifying child abuse. It is never thought that a dentist will suspect abuse. Parents will frequently change their child's pediatrician, but not their pediatric dentist. We often act as child psychologists, observing behavior and lesions that do not tally with the version given by the parents.

Objective: Our aim was to carry out a statistical study on Child Abuse in the Autonomous Community of Murcia.

Material and methods: In order to carry out our study we required the help of the Council of Social Policies, Women and Immigration, and the Management Department for Families and Minors in the Region of Murcia. The Council gave us access to reports in child abuse cases from which we collected all the variables that make up the study: sex, age, date of notice, whether the abuse was suspected, clear or obvious, who was accompanying the minor when the report was made, area where detected (Health Center, Hospital, School...) type of abuse, area of lesions.

Results: More than 75% of the cases that are reported are suspicious of child abuse. Fifty percent of the time, the child is in the care of the mother when the suspicion of abuse is reported, followed by the father, and other family members who make up a smaller percentage. Most of the cases are reported in the Virgen de la Arrixaca Hospital (in Pediatric Emergencies) followed by Health Centers in the different towns in the Region of Murcia. In both cases the reports are made by the doctor-pediatrician attending the child. Within the types of abuse, from more frequent to less frequent, it is cases of negligence that are reported the most (the basic needs of the minor are not met, such as nutrition, hygiene, dental care, medical needs, school attendance), followed by sexual and physical abuse (particularly bruises). Most of the lesions, in girls as well as boys, are observed in the head, especially in the face, and mainly in the peri-orbital region.

Conclusions: We are obliged to report cases of child abuse both as citizens and as health care professionals. Should we fail to do so, we will be breaching the basic rights of the minor to assistance when in danger, which

is a crime. We should not diagnose abuse but report it, so that the competent authorities can investigate and take the precautions considered necessary.

32. EXTRINSIC TOOTH STAINS IN A CHILD POPULATION IN VALENCIA

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Introduction: Extrinsic tooth staining is a discoloration of the dental plaque that has a microbial, dietary and iatrogenic origin. Points or lines appear on the gingival borders of the teeth in both dentitions. This is aesthetically undermining for children.

Objectives: We aimed to determine the prevalence of extrinsic tooth staining in a sample of school children in the city of Valencia, to study the relationship with caries, and to establish the relationship with different socioeconomic variables.

Material and methods: A sample of 575 school children from the city of Valencia, and who were aged between 9 and 14 years, was studied. The examinations were carried out, after written consent was obtained from their parents, in the education centers themselves using an explorer with natural light.

Results: Extrinsic black stains were found in 14 of the 575 children examined. With a confidence level of 95%, the prevalence of the stain varied between 0.01% and 4.05%. According to the Lobene index, the product total for extrinsic black tooth stains was 5'44.

Conclusions: The prevalence of extrinsic black tooth stains in a group of children from the city of Valencia, with a confidence level of 95%, varied between 0.01% and 4.05%. The prevalence of extrinsic black tooth stains did not have a statistically significant relationship with caries prevalence. There was a negative co-relationship between caries severity and the presence of extrinsic stains, but the difference was not statistically significant.

33. METHODS FOR ASSESSING THE CHRONOLOGICAL AGE OF MINORS

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Introduction: Determining the chronological age of humans is a challenge for science. For a long time an indicator has been searched for in order to estimate the maturity of the individual that gives more than a simple administrative date. This degree of maturity should be able to estimate a chronological age with precision.

Dental age is one of many physiological ages that are established as diagnostic methods in the individual, with multiple uses; in pediatric dentistry, orthodontics, estimation of chronological age in forensic and legal areas, etc. The Demirjian method is the most used and validated for determining dental age. Paradoxically, the cases when a precise chronological age is not known are

becoming increasingly frequent in developed countries and Spain is not alien to these phenomena. However, there are clear development differences according to the geographical region studied, which makes establishing regional patterns necessary for dental calcification, and the application of standards obtained from other populations should be avoided.

Objectives: The objective of this study is to highlight the importance of the studies on dental maturity and the role of the pediatric dentist, and to revise the different methods used, to describe the Demirjian method and its current application in clinical dentistry, and in legal and forensic medicine.

Material and methods: A search was made in PubMed, Medline, Willey, the UCM and UEM database. The different studies have been analyzed for calculating dental age from a pediatric dentistry, orthodontic and legal/medical points of view.

Results: Although there is no method that offers 100% security, it would seem that the method proposed by Demirjian on its own or in combination with other observations, continues to be one of the most accepted methods.

We would like to highlight the importance of obtaining values that are adapted to each population, as significant differences have been observed among different ethnic groups and among different populations. The best method is the one that unifies efficiency with ease of access.

Conclusions: In many cases establishing an age exactly without making serious mistakes will not be possible.

34. MICROFILTRATION OF TEMPORARY CEMENT IN CLASS II CAVITIES. AN *IN VITRO* STUDY

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Introduction: According to a revision of the literature, numerous studies conclude with the importance of achieving a good marginal seal in order to avoid marginal microfiltration. The use of provisional restoration materials is an important factor for the success of pulp treatment. Up until now, zinc oxide eugenol was the material most used as a base in pulp therapy in the primary dentition. There are, in addition, other materials that are used as provisional materials for sealing the access to the crown between sessions, during the treatment or after the consolidation period, providing the final restoration has not been carried out.

Objectives: To evaluate the degree of marginal microfiltration of four cements in temporary restorations: Fermin, IRM, Ketac Cem, and Durelon.

Materials and methods: Class II cavities were prepared in 40 human premolar teeth. The teeth were divided into four groups, and restored with the materials under study. They were then submerged in a 2% methylene solution for 48 hours. The teeth were sectioned in a mesiodistal direction and in a transverse direction.

The fragments obtained were evaluated visually and photographed using a Leica Z6 APO microscope which was connected to a Leica DC 500 digital camera. The degree of gingival microfiltration and occlusal microfiltration was evaluated according to the Miller indexes.

Results: Fermin's cement had the highest sealing capacity both gingivally and occlusally (44.5% and 56% respectively). Severe microfiltration was not found in any of the cases. IRM cement gave the poorest gingival seal (11%) and a high percent (67%) of moderate gingival microfiltration compared with the other three cements. The Durelon polycarboxylate cement and glass ionomer did not show significant differences.

Conclusions: All the materials showed microfiltration to a greater or lesser degree. Of the four materials evaluated, Fermin had the least microfiltration.

35. GENERAL INDICATIONS FOR MTA. TREATMENT AND PROGNOSIS IN PEDIATRIC DENTISTRY PATIENTS

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Introduction: MTA is a mineral trioxide and the first dental references on it to be found in the literature go back to 1993. Its use in Dentistry arose because of the need to find an adequate material for certain endodontic treatments. However, given the properties of this material, we can observe that a large number of cases are treated with MTA, and that it is also used in pediatric dentistry.

Objectives: a) To determine the indications for MTA described in the Dental literature; and b) To present the treatment and progress of five pediatric dentistry cases treated with MTA.

Material and methods: In order to meet our first objective a revision of the literature was carried out with keywords for the search in Pubmed, national and international journals of: *MTA, mineral trioxide aggregate and ProRoot* among others, and the articles were chosen from the last ten years. In order to be able to describe the treatments with MTA that were most representative in pediatric dentistry 5 cases that were treated in the master's course in Pediatric dentistry in the Faculty of Dentistry of the University of Seville were chosen.

Results:

– The indications for MTA in Dentistry are very diverse. In the private dentition its use is limited to pulpotomies, but in the permanent dentition we find cases described with pulp capping, root and tip perforations, retrograde obturations, among others.

– The case is presented of a patient who underwent direct pulp capping, another with a pulpotomy of a permanent tooth, another case with apicoformation, a filling for a crown fragment after a root fracture, and lastly a pulpotomized primary molar.

Conclusions: MTA is a relatively new material, and it is because of this that studies are still being published with new indications. However, since it was first used there is certainly a solid amount of literature supporting the good prognosis of these treatments.

36. LEVELS OF PREVENTION IN MALOCCLUSION

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Introduction: Malocclusion is a common problem found in the population (it takes third place after caries and periodontal disease with regard to dental disorders and diseases).

This work aims to give an evaluation of the different risk factors, in order to be better acquainted with the etiology and causes that can modify the normal development of individuals. We will give a presentation of the different measures that can be adopted and the different levels of prevention. We will focus on the role of the dentist before the appearance of the malocclusion, and the orthodontic aspects to be kept in mind once the malocclusion has been established, will hardly be dealt with.

Objectives: To determine the etiology of malocclusion so that its appearance or development can be avoided by using different prevention levels.

Material and methods: a revision of text books and articles in specialized journals appearing over the last five years was carried out. The search was carried out in MEDLINE and PUBMED.

Results and conclusions: malocclusion is a fairly prevalent problem which is triggered by multiple factors. Early detection is very important as is carrying out a correct diagnosis so that an effective treatment plan can be carried out according to the individual requirements of each child. *Prevention* can be considered a potential alternative to treatment.

37. PEDIATRIC ORODENTAL CARE REQUIREMENTS AS A RESULT OF MIGRATORY MOVEMENTS

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Introduction: In 1990 a Program of Child Dental Care was implemented covering all the children in the Autonomous Community of the Basque Country who were aged 7 to 15 years. This action together with the application of other Public Health measures such as water fluoridation in 1988, health education, etc., achieved an increase in the number of caries-free children: 95% of 7 year-old children as opposed to 86% in 1988.

The current socio-demographic situation in the Autonomous Community of the Basque Country, which is related to the affluence of immigrant populations from different countries, raises the need to study the state of orodental health and to evaluate if there are differences with regard to the local population when 7 year-olds join the Child Dental Care Program.

Objectives: To evaluate the degree of eruption, caries rate and use of dental services in a sample of seven year-olds who were attending public schools in Bilbao.

Materials and methods: A questionnaire was distributed, and a medical history together with an examination was made of a total of 96 children. Of these 62 were local and 31 were immigrant.

Results: The mean age was 80.1 months \pm 7,3. The immigrants were from different countries, but mainly from South America. We found that in the immigrant population dental eruption was more advanced. The DMFT and dmft indexes for the entire sample showed values of 0.08 and 1.05 respectively. All the immigrant children had higher values to local children with regard to the dmft index (2.10 as opposed to 0.53), and the DMFT index (0.13 as opposed to 0.05). We found a very diseased group among the children who belonged to the gypsy community. These children had very high dmft rates (3.0) and DMFT (0.50) as opposed to the other local children (dmft = 0.27) (DMFT = 0). The use of dental services by both the groups was very similar.

Conclusions: Immigrant children have worse orodental health when joining the Child Dental Care Plan. Although, we would like to point out that there are pockets of resistance among the local population that are receiving neither preventative measures nor care, and this should be kept in mind.

38. ORAL HEALTH GUIDANCE DURING EARLY INFANCY

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Introduction: Caries are currently the most infectious childhood disease that can cause serious health problems in children. The different etiological factors involved can be influenced by the professionals attending children and their surroundings, and therefore, all the educational tools become important measures for preventing the physical, emotional and economic consequences of the disease.

If we take into account that the education of the population should start at an early age and that very few pediatric dentists have the opportunity of being in contact with parents during the first years of the life of the babies, the different areas where pediatric dentists should intervene and be active participants of educational strategies should be evaluated.

Objectives of the presentation: To give shape to the guidance offered to parents with regard to the oral health of their children, as well as to suggest the different areas for intervention so that pediatric dentists are able to participate actively in promoting oral health during infancy.

Methods: An extensive revision was carried out of the literature regarding the educational measures to prevent caries in early infancy in order to give a personal analysis on the need for active participation by pediatric dentists in preventative strategies outside the consultation room.

Conclusions: There should be consensus by pediatric dentists on oral health guidelines during infancy so that

parents receive the same information from the whole sector. Therefore, taking into consideration that the pediatric dentist is not traditionally included in the team in contact with babies and their families, we should reflect on the importance of looking for alternative ways for spreading our message on oral health.

39. ORAL HEALTH AND PREVENTION IN PEDIATRIC ONCOLOGY PATIENTS

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Introduction: Child cancer is the second cause of infant mortality in children after accidents, and the incidence is around 15 cases per hundred thousand children under the age of 15. Current survival beyond five years is, in developed countries, over 75%.

The oral complications that are to be found during and after treatment severely condition the quality of life of these patients as they uncommon, and because they cause pain, dysphagia, speech and nutritional problems. These patients require dental attention early on in order to improve their oral health.

Objective: To evaluate the impact in oral health in patients of preventative dental attention before starting the treatment, as opposed to receiving dental attention only after the oncological therapy.

Material and method: We carried out a prospective cross-sectional study in a population of oncological patients that were seen in the Pediatric Dentistry Department of the Sant Joan de Déu Hospital in Barcelona from 1996-2009. The population was made up of blood cancer patients and patients with solid tumors.

They were put into two groups: Group A, who were attended at the beginning (T-1), during (T-2), and at the end (T-3) of the treatment. And Group B who were only seen at the end of the treatment. In T-1 preventative measures were carried out, in T-2 these measures were continued and dental treatment was carried out, and in T-3 an evaluation was made of the state of health.

All of the patients had soft tissue (mucositis) and hard tissue lesions (dmft and DMFT index).

Results: The study was made up of a sample of 113 patients. The mean age was 9.2 years (age range: 6m-18 years). Of these 27 were blood cancer patients and 86 had solid tumors. 81% of the blood cancer patients and 84% of the solid tumor patients received complete preventative measures from the start (T-1), while 18% of the blood cancer patients and 16% of the solid tumor patients only received restorative dental treatment (T-3).

The results obtained showed that the blood cancer patients as well as the solid tumor patients belonging to group B showed greater disease in soft as well as hard tissues than their counterparts in group A.

Conclusions: The results obtained showed that early dental attention based on preventative measures at the start of the treatment significantly reduces the number of oral complications during oncological processes.

40. PRIMARY MOLARS PULPOTOMIES WITH SODIUM HYPOCHLORITE. PRELIMINARY RESULTS

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Introduction: Pulpotomies are aimed at preserving the vitality and function of the remaining root pulp until the primary tooth is shed. Formocresol is one of the most used medications. However, due to the controversy surrounding the toxic, carcinogenic and mutagenic properties of formaldehyde, and thus formocresol, different alternatives have been proposed among which are sodium hypochlorite.

Objective: Our aim was to evaluate and compare the clinical and radiographic results of formocresol and sodium hypochlorite as a medicament for primary teeth pulpotomies.

Material and methods: Twenty-six carious molars were used, with restoration possibilities, a minimum presence of two thirds of the root and no clinical or radiographic evidence of pulp degeneration. The sample was divided into two groups: Group 1 (control group) consisted of 13 molars in which pulpotomies were performed with formocresol, and Group 2 (experimental group) consisted in 13 primary molars in which pulpotomies were performed using 5% sodium hypochlorite. The pulpotomy procedure in both groups was carried out as described in the literature, with the same operator performing the procedure.

IRM[®] was applied regardless of the material used on the pulp stumps in all the primary molars which was followed by a periapical radiography. A stainless steel crown was placed to make it a permanent restoration. Three months after the pulpotomies were carried out, a periapical radiography was taken and a clinical examination was carried out in order to measure the clinical and radiographic success criteria.

Results: The preliminary results appear to indicate that sodium hypochlorite could be a possible substitute for formocresol in primary molar pulpotomies due to the high success rate in the clinical success criteria (absence of symptomatology, absence of abscesses or fistulas, and absence of pathologic mobility) as well as radiographic criteria (absence of periapical, interradicular or furcation radiolucency, absence of internal or external root resorption, and absence of periodontal ligament widening).

Conclusions: The preliminary results of the pulpotomies carried out using 5% sodium hypochlorite were similar to the results obtained with formocresol pulpotomies. However, the results are not conclusive as increasing the follow-up period and a larger study sample are necessary.

41. BONE REGENERATION IN COMPOUND ODONTOMAS

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Introduction: Odontomas are currently the most commonly diagnosed odontogenic tumors. They mainly appear between the ages of ten and twenty with no gender difference. The WHO classifies odontomas histologically in two categories; complex and compound. They are accidental findings in radiological examinations and the treatment of choice is surgical excision. After the tumor has been eliminated, the bone defect has necessarily to be filled with a graft, which will favor healing in the region.

Although in recent years much progress has been made in the field of bone grafts, new materials have to be found together with active substances that facilitate bone regeneration in the jaws of our patients. The ideal bone substitute is the one with osteoconductive, osteoinductive and osteogenic properties. The only material that currently has these characteristics is autologous bone. Allografts and xenografts are an alternative to the patient's own bone and they are currently used together with synthetic materials and biomaterials very frequently.

Xenografts generally come from bovine bone although they may be from equine or swine bone. Xenografts are combined with other materials (autologous bone, biomaterials, osteogenic cells and active principles) to facilitate and accelerate osteogenesis.

Melatonin is to be found among the active substances that are being investigated. It is a hormone synthesized by the pineal gland that has a series of biological effects on the organism among which are the promotion and stimulation of bone regeneration.

Clinical cases: Two cases are reported of child patients who underwent surgical resection of an odontoma. In one case the defect was filled with swine bone (MP3), while the other defect was filled with swine bone (MP3) plus melatonin.

Clinical and radiological examinations were carried out at 0, 3, and 6 months.

Conclusions: at three months the defect was totally cured with both techniques and density screening was similar to intact bone.

42. CURRENT SITUATION REGARDING DENTAL FLUOROSIS IN A GROUP OF ADOLESCENTS

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Introduction: The massive influence of immigrants into our country has led to changes in the pattern of orodental disease and certain pathologies have acquired greater relevance. Dental fluorosis is a disturbance in dental development produced by the excessive ingestion of fluoride during critical stages of dental formation. Dental fluorosis begins to appear when ingested fluoride concentrations are above 1.8 parts per million. It is an endemic public health problem that affects the child and teenage populations in various regions of the

world where the running water that is for consumption has too much fluoride.

Objective: To determine the prevalence of dental fluorosis in a group of adolescent immigrants compared with a local Spanish group.

Material and methods: We carried out a cross-sectional epidemiological study of 134 school children (65 were local and 69 immigrant) who were residents of the Autonomous Basque Community and who were aged between 12 and 13 years. The clinical examinations were carried out in the children's study centers with artificial light, a mirror and examination probe. The diagnostic criteria for registering the presence of dental fluorosis was the Dean index (normal, questionable, very mild, mild, moderate, and severe).

Results: The prevalence of dental fluorosis in the sample total was 20.9%. If the existence of this disturbance in the groups affected is compared, we will observe a greater prevalence of fluorosis in the immigrant group (37.7%) with regard to the local Spanish group (3.1%). If we analyze the classification that the cases highlighted belong to, we will observe that in the local group the two cases registered were "questionable", while in the immigrant group, 11.6% and 21.7% and 2.9% corresponds to "very mild", "mild" and "moderate" respectively.

Conclusions: Immigrant adolescents had higher levels of dental fluorosis compared with local Spanish children. The prevalence of fluorosis among the Spanish population was low in the national orodental health surveys carried out between 2000 and 2005 (14%, with the majority of cases being "questionable" or "very mild"), and it is therefore necessary for health professionals to expand their knowledge of the theory and the clinical characteristics of this condition that can appear as both a local condition (dental fluorosis) and as a general condition. Dental fluorosis is not just an aesthetic problem, and as orodental health professionals we should adapt our knowledge and care to the new necessities of the child and adolescent population.

Source of finance: Investigation project. University of the Basque Country.

43. HOW TO RECOGNIZE TAURODONTISM IN CLINICAL PRACTICE

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Introduction: Taurodontism is a disturbance in the morphodifferentiation phase as a result of a chronological invagination failure of Hertwig's epithelial root sheath. This results in teeth with an elongated pulp chamber and an apical furcation displacement. The diagnosis of taurodontism is radiographic and there are various classifications, depending on the author, of this anomaly.

Taurodontism can be found on its own, in association with other dental conditions or forming part of other

syndromes. It is more usual for it to be found in molars, and it appears in the primary as well as the permanent dentition.

The clinical implications in disciplines such as prostheses, oral surgery, orthodontics, periodontics and endodontics should be kept in mind when developing a suitable treatment plan for each case.

Objectives:

- To carry out a revision of the current literature on taurodontism.
- To become familiar with its etiology and epidemiology.
- To be able to diagnose and classify a tooth with taurodontism.
- To recognize the pathologies with which it can be associated.
- To analyze the clinical implications of taurodontic teeth.

Material and methods: A search of the literature was made of indexed journals in databases such as: CompuDoc, PubMed and Medline. The keywords introduced were *taurodontism; taurodontic teeth; pulp therapy taurodontism; taurodontic molar*. Articles were collected from 1958 to 2010, and of these 16 articles and 4 books were chosen.

Conclusions:

1. The diagnosis of taurodontism is from radiographs.
2. Bearing in mind the clinical implications of this anomaly regarding other disciplines is necessary so that these teeth can be treated correctly.
3. Reunifying the criteria of the authors for the diagnosis and classification of taurodontism is advisable.

44. TAURODONTISM: DIAGNOSTIC CRITERIA

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Introduction: Taurodontism is defined having morphological dental characteristics as there is apical displacement of the pulp chamber that leads to the roots being proportionally shorter, and an increase in the size of the pulp chamber. The term "taurodontism" was introduced by Keith in 1913 and since then various authors have used it for diagnostic criteria. Some authors have used complex metric criteria (Keene 1966; Blumberg 1971 and Shifman and Chanannel 1978), others proposed subjective evaluation criteria. Different degrees of taurodontism have also been defined (Shaw 1928, Tratman 1950).

Objectives: The objectives of this work were to analyze these morphological disturbances, their clinical implications, the advantages and disadvantages of the different evaluation methods, and to measure taurodontism in the orthopantomographies of children aged 8 to 9 years.

Materials and methods: A total of 23 orthopantomographies were selected that had been carried out in the year 2010 of children born during 2001, and who were therefore aged between 8 and 9. Measurements were carried out of the radiographies following the different methods mentioned. Confidence intervals were calculated for the metric criteria.

Results: We were able to diagnose taurodontism in a patient, as the diagnostic criteria matched using the three methods.

The main disadvantage of metric assessment is the difficulty in locating the reference points on the panoramic radiographies in such a way that they can be reproduced.

Conclusions: Metric studies on taurodontism using the orthopantomographies of children have their limitations, given the difficulties of locating the reference points precisely, and the tight margin used for the classifications.

45. IMPLANTOLOGICAL THERAPY IN PEDIATRIC DENTISTRY PATIENTS. WHAT ARE THE LIMITS?

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Introduction: Implantology therapy is currently one of the most demanded treatments in dentistry. It is a comfortable fixed solution, as opposed to having missing teeth. However, this is not an option that is commonly applied to child patients. Given that the basis of implantology is osseointegration, using this alternative in a growing patient such as the pediatric patient, could involve high risks. However, there are cases such as ectodermal dysplasia, with a total or partial absence from birth of dental structures that involves atrophy of the alveolar process and difficulty with removable prosthesis treatment. Therefore, and in order to guarantee the physical and psychological wellbeing of the child, the use of implants has been described. Nevertheless, it should not be forgotten that we are dealing with growing patients, and that there are possible risks with fixed prosthetic treatment in continually remodeling bone.

Objectives:

- To describe in what scenarios therapeutic implantology in the child patients is applicable.
- To explain what areas of the jaw are most suitable for placing implants.
- To demonstrate the need for a multidisciplinary focus for treating these patients.

Material and methods: In order to carry out this revision of the literature a search was made in the databases of Pubmed, Medline, Cochrane and Web of Knowledge, and the articles were received electronically and manually in the archives of the Faculty of Dentistry (UCM). The search was carried out between 1990 and 2010. The keywords used were: *dental implant child, dental implant growing child, ectodermal dysplasia, oligodontia, anodontia.*

Conclusions:

- Implantology treatment for child patients can be used in certain cases such as in ectodermal dysplasia.
- The dental therapy for these patients should be focused from a multidisciplinary point of view.
- The regular examinations of child patients receiving implantology treatment is essential and prosthetic modifications will become necessary in order to guarantee correct stability while bone is growing and remodeling.

46. ENDODONTIC TREATMENT OF LARGE PERIAPICAL LESIONS: AN ALTERNATIVE TO SURGICAL TREATMENT

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Introduction: The precise mechanism that occurs in the formation of periapical lesions is not totally known. There is general consensus that if the pulp is necrotic, the surroundings are ideal for microorganisms to multiply and liberate toxins into periapical tissues, which will give rise to an inflammatory reaction and, as a result, the formation of a periapical lesion. According to current philosophy, an initial measure has been proposed that is non-surgical, and when this is unsuccessful for curing the lesion other options should be considered. The material of choice for this treatment is calcium hydroxide.

Objectives: The objective of this work is to show how large periapical lesions are treated following conservative non-surgical treatment with calcium hydroxide.

Material and methods: Four patients with large periapical lesions and with a diagnosis of chronic periapical periodontitis, who had undergone non-surgical endodontic therapy: canal preparation, irrigation with 2.5% sodium hypochlorite, canals were filled with 75% calcium hydroxide and 25% Kri-1 (composition: 661 P-chlorophenol at 2.025%, 4.86% alcanfor, 1.21 menthol, 80.8% iodoform, 6.5% lanoline, and 4.6% glycerin) mixed with sterile physiological serum, that was introduced with stretchers, anticlockwise, sealing the cavity with composite. The first change was carried out after two weeks in order to counterattack the acidity produced by the apical inflammation and the remainder when the canal was empty. Radiological evaluation was carried out at 1, 3, 6 and 12 months.

Results: In all cases complete healing of the apex was observed except in one patient who had a very large apical lesion (from canine to canine) and who had apical surgery planned from the start. However, after observing positive progress, conservative treatment was decided on. After a year with just calcium hydroxide, only a slight apical image could be seen by n°12.

Conclusions: Non-surgical treatment with calcium hydroxide has a high periapical healing rate, even in large periapical lesions. This treatment additionally has all the advantages of not subjecting young patients to surgical intervention.

47. POSTOPERATIVE TREATMENT FOR LINGUAL FRENECTOMY: A REPORT OF TWO CASES

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Introduction: The tongue is a muscular organ, with great sensorial and motor innervation that should have

mobility to enable it to carry out various functions within the oral cavity. Nevertheless, on many occasions we find limited mobility due to the presence of a short or thick tongue frenum.

Carrying out an early diagnosis in order to achieve better prognosis and progress is necessary, as is establishing guidelines for the resection of the tongue frenum. Postoperative speech therapy, which is also necessary after the surgery, consists of a series of exercises to achieve correct oral habits.

Objectives of the presentation: To explain the need and repercussions of correct speech therapy once the resection of the frenum has been carried out, as well as to explain the importance of a good bidirectional relationship between dentist and speech therapist.

Methods: A revision of the literature in the PubMed database was carried out from 1993 to 2008. The keywords used for the search were: *frenulotomy, frenuloplasty, frenotomy, tongue-tie, ankyloglossia*. Two clinical cases are presented of pediatric dentistry patients who underwent lingual frenectomies and the speech therapy that was later carried out.

Conclusions: The mediation of pediatric dentists for preventing and detecting bad habits and for providing treatment guidelines is very important, as is the work to prevent ankyloglossia in the phonetic balance of the child.

The success of the treatment for orofacial and speech disturbances as a result of a mechanical articulation deficit will be the product of integrated work between the patient, his family and the professional team involved, with postoperative speech therapy being fundamental for success.

48. TRAUMATIC DENTAL INJURY IN VALENCIAN SCHOOL CHILDREN AGED 6 TO 10 YEARS

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Introduction: Traumatic dental injuries are common among the child and juvenile population due to a greater participation in contact sports. This involves an increase in morbidity in the primary and/or permanent dentition, in addition to producing aesthetic, psychological and social damage to the child.

Objectives: The aim of our study was to analyze by using gender and age, the prevalence and distribution of dental trauma in the permanent dentition, in a sample of school children in the province of Valencia.

Materials and methods: The sample studied was made up of 1681 Valencian school children between the ages of 6 and 10 years. The examination was carried out with natural light and with the aid of an intraoral mirror. The data collected included the number of erupted, carious and traumatized teeth, in addition to occlusion, according to the classification by Hargreaves and Craig.

Results: Of the sample total, 58 children had some sort of trauma (3.5%), and this was more common in boys (2.14%) than in girls (1.31%). Of the children affected, 72.4% only had trauma to one tooth, while 27.6% had two or more traumatized teeth. The 58 children affected had a total of 75 traumatized teeth (all in the anterior area). Of these 93.3% were in the upper jaw while 6.7% were in the lower jaw. The most affected tooth was the left central incisor of the upper jaw, in 48%, followed by the right central incisor, in 42.7%. The most common type of trauma according to the Hargreaves and Craig classification was type II (61.3%), followed by type I (37.3%). The mesioincisal angle was the most affected in 53%. Of the children with trauma 20.7% had a projection of more than 3 millimeters.

Conclusions: The prevalence of trauma in the school population analyzed was greater in boys (3.5%) than in girls, and the older the child, the greater the prevalence.

Poster Communications

1. AN ALTERNATIVE TO THE PREMATURE LOSS OF A PRIMARY SECOND MOLAR

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Introduction: Primary molars are a determining factor in the development of occlusion. The premature loss of second primary molars represents a problem regarding the controlled eruption of the first permanent molars and, as a result, the development of the complete permanent dentition. For this different appliances have been developed which are aimed at maintaining the space until these molars have erupted. The best known is the proprioceptive space maintainer.

Objectives: The objective of this work is to present three clinical cases giving alternative treatment to the proprioceptive space maintainers that are quite severe, and which lead to many problems if proper hygiene is not followed. Free-end space maintainers are less aggressive, they are more comfortable and clean, and they give fewer problems.

Material and methods: As we needed to extract a second primary molar prematurely, impressions were taken and a free-end space maintainer was designed on a plaster mold which was sent to a laboratory to be made.

Conclusion: The free-end space maintainer is a good solution for premature loss cases of second primary molars so that eruption of the first permanent molar can be controlled, as has been demonstrated in these clinical cases.

2. ORAL SURGERY IN THE CHILD PATIENT WITH VON WILLEBRAND DISEASE

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Introduction: Von Willebrand disease is a coagulation anomaly due to a deficit of von Willebrand factor that affects platelet aggregation. There are 3 different types: types 1 and 2 are of autosomal dominant transmission and type 3 is recessive and more serious.

Objective: Our aim was to present the protocol used by the Department of Maxillofacial Surgery for Children in the La Paz hospital in Madrid for the oral surgery intervention of children with von Willebrand disease.

Material and methods: A retrospective revision was carried out of the clinical history of patients with Von Willebrand disease who were treated by the department of Maxillofacial Surgery for children from the year 2006 to 2009. The 61 patients who were treated during this period are included, together with the type of surgery carried out, and the postsurgical complications that appeared in the follow-up period. A systematic revision of the literature was carried out in PubMed from the year 2000 to 2010, and the keywords oral surgery, von Willebrand, bleeding disorder, haemostatic management were introduced.

Results: All the patients undergoing surgery were admitted the day before and given tranexamic acid 10mg/kg/8h. After the surgery the i.v. dose was continued for 24 hours, and it was changed to an oral dose for 5 days which the patient had at home. The success rate was 91.8%. Only in 5 cases was there unexpected bleeding: four children presented with slight postoperative bleeding and there was just one case that gave way to pressure.

Conclusions: It is essential that pediatric dentists and hematologists act together so that children affected by von Willebrand disease receive correct hemorrhage risk management when undergoing oral surgery procedures. The protocol described ensures a low complication rate, and we believe that it is useful for all patients diagnosed with von Willebrand disease.

3. QUALITY CONTROL IN PEDIATRIC DENTISTRY CARE AT THE UCM

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Introduction: The dental faculty at the Complutense University in Madrid carries out treatment that encompasses all the therapeutic fields of dentistry. The pupils on the degree course carry out the corresponding practical work with pediatric patients as from the fourth year. We studied a series of factors that influence the dentist-

patient relationship, and therefore the treatment we offer, in order to improve the quality of the different services given, and to increase the degree of satisfaction of our patients.

Objectives:

1. To become familiar with patient opinions regarding the dentistry faculty on the following points: a) time on waiting list; b) comfort in waiting room; c) treatment received by the auxiliary staff, pupils and teachers; d) cost; y e) satisfaction with the treatment.

2. To determine points of improvement in the patient care offered.

Material and methods: In order to study the degree of satisfaction of the patients coming for treatment at the dental faculty of the UCM, we distributed two questionnaires. The first questionnaire was aimed at the child patient receiving treatment, and the second was for the adult in charge of our patient. The following departments were evaluated in the survey:

- Reception of child patients.
- Integrated child dentistry.
- Pediatric dentistry.

A total of 50 questionnaires were collected from people who had been chosen at random, from which a study was developed.

Results and Conclusions: The evaluation revealed important points for improvement, especially regarding general unawareness among patients on real waiting list times when at the general reception for patients.

These data will allow us to introduce improvements that will completely satisfy their treatment needs. As a result of the data obtained in the survey, changes will be put in practice that are aimed at ensuring, in future courses, an improvement in the service given to our patients.

Financial source: This project was carried out using a collaboration grant from the IV year Stomatology Department of the UCM.

4. DENS IN DENTE: A CASE REPORT

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Introduction: Dens in dente is described as a dental development disorder as a result of the invagination of the internal epithelial cells or the enamel organ. The teeth that are most affected are the upper lateral incisors. The prevalence is greater in males and in the permanent dentition.

Histopathologically, the invaginated complex is made up of enamel dentine, arranged in an inverted fashion, with the dentine being more peripheral.

Clinically the anomaly is difficult to diagnose, but is suspected as a result of a very pronounced blind hole. A radiography with confirm the diagnosis, as the pulp chamber will be occupied by the enamel invagination.

Although at times it will develop asymptotically, it is more frequent for these teeth to suffer from pulp disease after erupting, as there tend to be canals joining the invaginated central cavity with the pulp. Preventative treatment is crucial for keeping the tooth in the

mouth, because if a pulp lesion appears in immature teeth, depending on the type of *dens in dente*, root canal therapy may be complicated and the prognosis for the tooth may be unfavorable.

Objectives: To elaborate the ideal treatment plan based on a revision of the clinical cases described to date in the literature.

Material and methods: A search was carried out in PubMed, Medline, Willey, and the UCM and UEM databases over recent years. The case of a child patient attending the university clinic of the UEM was evaluated.

Results: We devised treatment according to the needs of the child patient, who was then monitored.

Conclusions: We followed the same treatment line observed in our revision of the literature. Prevention continues to be the most efficient way of dealing with this disturbance.

5. SLOW TEETH: A CASE REPORT ON DELAYED ERUPTION

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Introduction: Dental eruption involves the movement of a tooth in an axial direction from its initial position in the bone to its functional position in the oral cavity. In normal conditions this is produced when the two thirds of the root has been formed. When this does not occur we refer to delayed eruption.

Delayed eruption is more common than early eruption of teeth, and it may be associated with systemic and local factors. Race, ethnic group and gender may influence eruption.

The literature is full of documented cases of delayed eruption, but none have the characteristics of this particular case of ours.

Case report: A 9 year-old patient attended the Pediatric Dentistry Department of the San Rafael Hospital with all primary teeth present and no permanent teeth. His panoramic radiography showed advanced intraosseous root development of the permanent teeth that had not erupted, to the extent that some of the apices had nearly closed. Agenesis of the upper right first premolar could also be observed.

Our objectives were: to find out the possible causes of this delay, to rule out any other related disease, and to stimulate the eruption of the permanent teeth.

The possible systemic etiologic factors were studied (inheritance, bone or endocrine disorders...) as well as local factors (ectopic or supernumerary teeth...). For this the parents were interviewed and a clear genetic component was observed. An endocrinologist was consulted in order to assess possible metabolic disturbances. A bone sample was analyzed using anatomopathological analysis, which showed significant bone sclerosis.

Our therapeutic approach was: extraction of the lower primary incisors, fenestration of the left lower primary molar, obtaining a bone sample. Measurements were taken for a proprioceptive plate with repositioning of

the antero-inferior teeth in order to stimulate the eruption of the permanent teeth. We are currently awaiting the results.

6. FISSURES IN NEWBORN INFANTS. UPDATE ON PRESURGICAL ORTHOPEDIC TREATMENT

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Introduction: Surgical treatment for unilateral and bilateral complete cleft palate patients is problematic due to the separation of the alveolar segments and the difficulty in aligning these correctly. The use of a presurgical orthopedic appliance improves the relation of the fissure segments, which therefore benefits surgical treatment. There are various types of presurgical appliances but there is currently no consensus on treatment modality.

Objectives: Our objectives were to provide an update of the presurgical orthopedic treatment modalities that are used today.

Material and methods: We carried out a revision of the literature over the last 10 years using various databases. The type of appliance used has been related to the type of fissure in the newborn infant. We observed that there was no unanimity in the use of presurgical orthopedic appliances among the different authors. The following keywords were used: cleft palate, presurgical orthopedics, DMA (maxillary advancement appliance), PMRA (premaxillary repositioning appliance).

Conclusions: The use of a presurgical orthopedic appliance in fissured patients depends on whether the fissure is a complete bilateral or unilateral fissure. The authors do not appear to be in agreement with regard to the benefits obtained from using this type of orthopedic appliance. We believe a pediatric dentist should be part of the multidisciplinary team treating fissured patients from birth.

7. STUDY ON THE PREVALENCE OF MALOCCLUSION IN 6 YEAR-OLD SCHOOL CHILDREN

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Introduction: Malocclusion is one of the most common pathologies in 6 year-old children, and for this reason it should be diagnosed and evaluated by a specialist at an early age.

Objective: The objective of this study was to evaluate the presence of occlusion disturbances and to quantify the differences according to population and gender.

Materials and methods: A cross-sectional observational study was carried out of 375 school children aged 6 years in their respective centers in two areas: Sant Boi de Llobregat and Vilanova i la Geltrú (Barcelona).

Results: The two most common types of malocclusion that we found were overcrowding (22.1%) and crossbite (18.1%). In third position we found open bite with a prevalence of 8%. The remaining malocclusions had similar significantly lower percentages: openbite (8%), and class II with increased overjet (7.5%), overbite (6.66%), and class III (6.4%). With regard to gender differences we observed that the total incidence of malocclusion was 7.4% greater in girls, and greater in class III (which was, despite being a less frequent pathology, 5.7% greater in the female group). The pathology predominantly affecting the male sex was overbite (2.23% greater in boys).

Conclusions: The results of this study showed that there is a high prevalence of malocclusion among school children (60%). Transverse malocclusion, crossbite, was the most prevalent together with overcrowding. This we feel is of great importance as this type of malocclusion requires rapid action in order to obtain the best treatment results and better long term prognosis.

8. STUDY ON DENTAL FEAR TRANSMISSION BETWEEN PARENTS AND CHILDREN

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Introduction: Dental fear in children is the principal cause for referring a child patient to a specialized pediatric dentistry department. Family influence seems to be a key aspect, as dental fear in parents appears to have an important effect on the anxiety of the child, and it may lead to a fearful reaction.

Objectives: Our aim was to study the existence of an emotional transmission of dental fear between parents and children and how this is transmitted to the child.

Materials and methods: The data obtained on dental fear were collected using the Spanish version of *Children's fear survey schedule-dental subscale* (CFSS-DS), given to 94 school children in a public school in the south of Madrid (55 girls and 39 boys) who were aged 7 to 12 years. Previously, an adapted version for adults of this questionnaire had been filled in by parents, and they had given their informed consent. Various statistical analyses were carried out (descriptive analysis, means comparison, correlation and analysis of multiple hierarchical regression) using the program SPSS 16.

Results: The level of dental fear was significantly greater in mothers ($M = 32,55$; $SD = 10,62$) than in fathers ($M = 29,31$; $SD = 10,27$) and children ($M = 28,48$; $SD = 10,42$). Significant gender differences were identified in the level of dental fear in boys ($M = 24,92$ $DT = 8,59$) and girls ($M = 31,00$ $DT = 10,93$). There were correlations between dental fear in both parents ($r = 0,45$ $p < 0,01$), mothers and children ($r = 0,25$ $p < 0,01$), and fathers and children ($r = 0,30$ $p < 0,01$). If the effects are controlled due to the gender of the child, the fear of the mother ($\beta = 0,20$ $p < 0,05$) and the fear of the father ($\beta = 0,29$ $p < 0,01$) are, on their own, significant predictors of fear in the child. Nevertheless, the score for the mother stops being a fear predictor in the child when the father's score is introduced into the regression

model, which continues being ($\beta = 0,25$ $p < 0,05$). Consequently, the levels of dental fear of the father influence the existing relationship between dental fear of the mother and child.

Conclusions: As in previous studies, the relevance of the gender of the child becomes evident in the levels of dental fear, and the hypothesis is confirmed regarding "emotional transmission" of dental fear between parents and children. Despite both parent transmitting fear to their children, the role of the father is decisive in dental fear being transmitted to the child. Nevertheless, more studies are necessary in order to contrast these results.

9. THE ETIOLOGY OF MOLAR INCISOR HYPOMINERALIZATION. A REVIEW OF THE LITERATURE

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Introduction: Over the last years, defects in hypomineralization in first permanent molars have been in the foreground because of their high prevalence. Molar-incisor hypomineralization was the name proposed by Weerheijm in 2001, and accepted by the European scientific community in 2003. This qualitative defect is defined as "hypomineralization with a systemic origin", it affects one to four of the first permanent molars, and it is frequently associated with defects in the incisors.

Clinically a disturbance is observed in the enamel, which is translucent and characterized by demarcated opacities with a defined border separating the normal enamel. These demarcated opacities can be in different colors: white, cream, yellow or brown. The clinical repercussion of this defect is the presence of caries at a young age, hypersensitivity in children, post-eruptive crumbling of the enamel as a result of the forces of mastication, difficulty in reaching analgesia for carrying out restorative treatment, need for complex treatment and/or need for re-treating the teeth affected.

With regard to prevalence, most of the studies have been carried out in Europe and they show a prevalence of 2.8% to 25%.

The etiology of MIH has yet to be determined. Factors leading to this disturbance between the ages of 0 and 3 years are being looked for, such as: low birth weight, prolonged breastfeeding as a result of dioxins, perinatal and postnatal problems, upper respiratory tract disease, otitis, asthma, fever over 39° and/or the continuous administration of antibiotics.

Objective: To carry out a revision of the literature related to the etiology of Molar incisor hypomineralization.

Material and methods: A systematic revision of the literature available online was carried out in the PubMed database, Medline and Scielo. The articles were obtained electronically. The inclusion criteria were: articles in the English language, published between 2000 and 2009, and the keywords were: demarcated opacities, molar incisor hypomineralization, hypomineralization in first permanent molar, mih,

cheese molars, etiology and molar incisor hypomineralization, Amoxicillin molar Incisor Hypomineralization.

Conclusions: The etiology of MIH has yet to be determined, although there are environmental and systemic factors that are known to disrupt the amelogenesis process. Continuing this line of investigation is necessary to determine the causal factors of MIH.

10. DILACERATED INCISORS. TREATMENT OPTIONS

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Introduction: Dilaceration is the term used to describe an anatomic distortion between the crown and the root of a permanent tooth. The etiopathogeny of this disorder is related to trauma to the upper primary incisors, especially when this occurs at an early age. It is due to the tight anatomic relationship between the root of the primary incisors and the crown of the permanent tooth which during the first stages of formation, show a laxity and fragility that makes them very vulnerable to blows.

The treatment proposed in the literature goes from surgical options, with the extraction of the retained tooth and the orthodontic closing of the space, substitution by means of a tooth-supported or implant-supported prosthesis, premolar autotransplant, and even more conservative methods that seek to reposition the dilacerated tooth.

Objectives: Our aim is to present examples of treatment using the more conservative techniques.

Material and methods: Four clinical cases are presented of dilaceration. We evaluate the different treatment alternatives aimed at achieving the correct position of the tooth in its physiological and anatomical position according to the primary position of the dilacerated incisor. *Case 1:* the patient was followed until the tooth erupted spontaneously. *Case 2:* fenestration to facilitate eruption. *Case 3:* fenestratrion and orthodontic traction. *Case 4:* direct surgical repositoning.

Results: The conservative techniques all achieved the correct repositioning of the tooth and the aesthetic and functional results were adequate.

Conclusions: We believe that these conservative methods should be considered as first-line treatment options for dilacerated retained incisors.

11. THE KINESIOGRAPH IN PEDIATRIC DENTISTRY. A TOOL FOR REGISTERING MANDIBULAR MOVEMENTS

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Introduction: The masticatory system is capable of exerting intense force through the execution of exact

movements. The precision of the movements is very important in order to avoid damaging the stomatognathic system and for maximizing efficiency. Alternating bilateral mastication is ideal, as it produces normal anteroposterior development of both the upper and lower jaws.

The kinesiograph permits registering the dynamic movements of the mandible on masticating, swallowing and speaking, in addition to other functional mandibular movements (laterality, maximum aperture and resting position). It is easy to use, comfortable for the patient and precise enough for registering quantitatively the mandibular movements. However, the equipment is complex and costly and trained operators are required.

The kinesiograph is made up of a magnet that is attached to the opening of the lips, under the mandibular incisors. Various sensors positioned on the face of the patient and fixed to the head using a mask, register mandibular movements on the frontal, sagittal and horizontal planes.

The kinesiograph is connected to a computer that traces three paths in different colors, which represent the components of the mandibular movements. The kinesiograph software provides a graphic recording of the movements in order to analyze the displacement through space of the mandible and it measures the movements with a precision of 0.1 mm in all directions.

Objectives: Our objectives were to carry out a revision of the literature in order to evaluate the application of the kinesiograph in pediatric dentistry

Material and methods: A search was carried out in the PubMed database and the articles were obtained electronically. The inclusion criteria were: articles in which the kinesiograph had been used to register mandibular movement, the English language, and publications in dental journals between 1990 and 2009. The keywords were kinesiograph in children, masticatory cycle, chewing cycles, masticatory pattern.

From the search 1337 articles were found, of which 11 articles were chosen, as they met the inclusion criteria mentioned.

Conclusions: The use of kinesiographs allows the non-invasive detection and tridimensional registering of mandibular movements carried out on masticating, swallowing and/or speaking.

12. FIRST VISIT TO THE PEDIATRIC DENTIST

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Introduction: The American Association of Pediatric Dentistry, the Spanish Society of Pediatric Dentistry and the European Academy of Pediatric Dentistry, recommend that children visit a Pediatric Dentist after the eruption of the first tooth, or before the first year of life in order to carry out a preventative consultation.

It is important that we know what we should evaluate in this first visit to the Pediatric Dentist. In addition to the proper examination, it is important to give parents instructions with regard to dietary habits (breastfeeding,

bottle-feeding, sweet foods and juices), behavioral habits (hygiene, pacifiers, digit sucking) and therapeutic processes (fluoride, caries, eruption and injuries).

Objectives: Our aim was to carry out a protocol on the aspects to be treated in the first dental visit in order to establish an educational base regarding prevention which will last the life of the child, in such a way that dental care is started and good oral health is achieved.

Methods: A revision of the literature was carried out using different articles from the electronic database in PubMed between 1999 and 2010 in addition to using books at the university library. The keywords used in the search were early childhood caries (ECC), first dental visit, infant oral health, prevention, nutrition, caries, fluoride, breast-feeding and non-nutritive sucking habit.

Conclusion: It is during early childhood that certain types of behavior are established and when hygienic habits are learnt, and therefore it is at this stage that education programs on orodental health should be started. The protocol has been made to facilitate at all times the oral health of the baby so that all aspects of prevention are carried out correctly in order that future dental caries as preschoolers are avoided.

13. BREASTFEEDING AND PHARYNGEAL MUSCLE DEVELOPMENT

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Introduction: The immunological and nutritional benefits of breastfeeding versus artificial breast milk have been well demonstrated in the literature. Similarly, the arrangement of the muscles that are involved is different in both feeding methods, and the development of the surrounding anatomical structures is significantly affected. Breastfeeding is responsible for the masticatory muscles maturing. The movement of these muscles, while limited in the newborn child, will help the muscular system mature by means of breastfeeding or natural milk. It can therefore favor the development of the pharyngeal muscles, allowing an increase in the pharyngeal lumen which is of great importance in ventilation procedures and for preventing apnea.

Objectives: Our objective was to examine if there is a positive relationship between breastfeeding and a greater pharyngeal diameter.

Subject, material and methods: A study was carried out on a sample of 68 randomly chosen subjects, 29.4% were males and 70.6% were females, who were aged between 7 and 46 years. They all underwent a lateral skull telerradiography with teeth in occlusion, standing upright, 5 seconds after swallowing (this was aimed at obtaining the same resting position of the pharyngeal muscles of the subjects in the study). Measurements were taken through this graphic registry of bone structures to observe the craniofacial type and pharyngeal diameter at four different points. We therefore evaluated the presence or not of bad habits such as oral breathing, digit sucking, lingual and labial interpositioning, all closely related to structural as well as functional problems that affect craniofacial and muscular development.

Results: After the analysis of the results it was noted that 76.5% of the subjects had received maternal milk, versus 23.5% who had been bottle-fed. The mean breastfeeding time in the sample was 5 months. The mean width of the pharyngeal tracts was 18.8 ± 6.3 , 11.65 ± 4.6 , 10.79 ± 2.8 y 10.75 ± 4.1 in the four points observed from the upper to the lower part.

Conclusions: There was a certain correlation between breastfeeding and a greater pharyngeal diameter, but no statistical significance could be established, possibly due to the size of the sample. This line of investigation should be continued.

14. MANAGING BRUXISM IN SPECIAL NEEDS PATIENTS

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Introduction: The term bruxism was introduced by Forhman in 1931, who described it as the habit of grinding ones teeth. In children with special needs there is a high incidence of this pathology.

Objective: The object of this revision was to become familiar with the range of applicable therapeutic alternatives for these cases.

Material and methods: a search was carried out of the literature using the PubMed database from 1997 to date, including articles in English and Spanish and using the keywords bruxism, temporomandibular disturbance, autism, cerebral palsy, acupuncture and botox. The inclusion criteria were all the articles that were literature revisions, longitudinal studies and cases that were found in databases.

Results: We found 21 articles that discussed bruxism in children with special needs. The etiology of bruxism is multifactorial and the possible factors are occlusion disturbances, temporomandibular disorders, psychological disturbance, neurological and systemic factors. In children with special needs we found a high incidence of bruxism, especially of cerebral palsy, Down syndrome and disturbances in the area of autism.

The treatment of these patients tends to be complicated due to the difficulty they have of managing themselves. Various types of treatment have been described from orthodontic and modified bite wing to acupuncture and botox. However, there are no established protocols and the results obtained up until now are varied.

Conclusions: Bruxism in special needs patients is, to conclude, a pathology that can seriously affect dental tissues. It has a high prevalence and treatment is difficult. Studies are necessary to establish action protocols.

15. ORTHOPEDIC TREATMENT IN THE NEWBORN INFANT WITH A COMPLETE BILATERAL CLEFT LIP AND PALATE

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The treatment protocol is presented for the first months of life of a patient with a complete bilateral cleft lip and palate who is in the Fissures Department of the University Hospital La Fe.

Each phase is illustrated with photographs, from the first visit when just a few days old, to when the first surgical intervention took place. The orthopedic treatment with an obturator is shown.

16. AN ORTHOPEDIC APPLIANCE FOR THE NEWBORN INFANT WITH A COMPLETE UNILATERAL LIP AND PALATE FISSURE

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Objective: Our aim was to demonstrate the changes achieved in maxillary and alveolar remodeling by means of a palatal obturator plate (POP), and to explain the action protocol followed at the Children's Hospital La Fe in Valencia. It was also to try to unify criteria for action protocols for non-syndromic children with complete unilateral cleft lip and palate.

Materials and methods: Clinical cases are presented with all the action methodology for using the POP and the clinical results after using this plate.

Conclusion: The orthopedic appliance that we present helps treating children with CUCLP as the distance is reduced between the segments of the fissure by the alveolar crest, while leaving the fissured elements of the lip in a better condition for surgical intervention.

17. PROTOCOL FOR MEDIATING IN THE ORAL HEALTH OF FISSURED PATIENTS

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Introduction: The cleft lip palate is a congenital structural deficiency as a result of an incomplete fusion of the face during the embryonic stage. It is the most common craniofacial malformations in the world with a global incidence rate of approximately one per 600 live births, although this number varies according to the continent, race and population.

Apart from the functional anomalies, as in oral respiration, swallowing disturbances, abnormal pronunciation and hearing, there may be disturbances at an intraoral level (malocclusion, dental structure disturbance, and secondary sequelae after therapeutic interventions).

All this leads to a greater incidence of caries and periodontal disease, as has been demonstrated in some studies. Developing protocols for these patients, which should be aimed at oral health maintenance as from birth, is fundamental.

Objectives:

1. To educate healthcare professionals on preventative measures for fissured patients.
2. To make parents and the children themselves aware of proper nutritional habits, and correct oral hygiene.
3. To develop information leaflets for health care workers, as well as parents and children.

Material and methods: In order to draw up these protocols a search of the literature was made, and the databases of Compludoc, Pubmed and Scielo, with the keywords: cleft palate, cleft lip, oral hygiene, cleft care, oral health. We found 88 articles of which, based on the inclusion and exclusion criteria, 22 were used and 66 rejected.

In addition, the department of Pediatric Maxillofacial Surgery was visited in the La Paz Hospital of Madrid in order to observe the oral care received by the cleft lip and palate patients.

Conclusions: It is essential that children with cleft lips and/or palates have healthy primary teeth in order for the orthodontic and surgical treatment to be satisfactory, in addition to oral function, speech development and space maintenance. Therefore, given the large number of risk factors in these patients, forming strategies for oral health maintenance is necessary.

Fissured patients, in addition to their parents and health carers should be made aware of this issue and leaflets with clear and representative information should be developed.

Project finance: This project was financed through a collaboration grant from the Dentistry Department of the UCM.

18. THERAPEUTIC DECISION MAKING IN MOLAR HYPOMINERALIZATION

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Introduction: Molar-incisor hypomineralization is a disturbance with a systemic origin affecting one or more permanent primary molars, which is often associated with incisors. The prevalence of this condition is variable, but the clinical implications are important and they often represent a challenge for the professionals that have to attend these children.

Objective: The objective of this work is to put together an algorithm for taking therapeutic decisions in molars with hypomineralization.

Material and methods: The different circumstances in which this condition can arise are analyzed and, based on our experience and the literature available, the different situations and therapeutic options are outlined.

Results: in order to take decisions, the symptomatology, extension, intensity of the condition, risk of functional deterioration, viability and occlusion, and other parameters should be considered.

Conclusions: The molars affected with hypomineralization require an effort by the clinician and continuous updates in order to be able to choose the best option for the child requiring treatment at all times.

19. ORTHOPEDIC AND FUNCTIONAL TREATMENT OF CLASS III MALOCCLUSION

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Introduction: When Class III malocclusion develops, the genetic component is highly relevant, however, the etiology is still multifactorial and the interaction between inheritance and the environment may increase or alleviate this pathology. The orthopedic treatment of Class III malocclusion during the early years has the advantage of being relatively quick as first phase treatment, which permits optimizing the second phase and it may avoid surgical intervention that is often bi-maxillary and that may even be followed by a relapse.

Objectives: To present the orthopedic treatment of two patients aged 5 and 7 years who had Class III malocclusion. This was carried out in the master's degree course in Pediatric Dentistry in the Faculty of Medicine and Dentistry at the University of Valencia.

Materials: The patients underwent an extraoral and intraoral clinical analysis before and after the treatment, as well as panoramic radiographies and lateral telerradiographies of the skull from which the cephalometric analysis was carried out.

Method: The patients were treated with a combination of antero-posterior expansion and displacement appliances for the jaws. We tried to make the treatment as simple and as short as possible. The inspection visits were carried out two weeks later and then every 3 to 4 weeks, and an attempt was made to motivate both parents and patients as much as possible. The treatment was aimed at influencing initial growth changes, and to achieve proper masticatory function.

Conclusions: The true objective of the orthopedic treatment for Class III malocclusion is to achieve good anterior guidance and physiological mastication so that environmental factors that can increase this pathology are avoided and so that prognosis is more favorable.

20. THE HUMAN PAPILLOMAVIRUS, PEDIATRIC DENTISTS AND THE VACCINATION

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Introduction: Following its approval by the European Union, the human papillomavirus is now recommended in Spain a year later. Despite the efforts by the health authorities to advise health professionals of the advantages and benignity of this vaccine, it is a fact that, in our opinion it can easily be seen that pediatric dentists are not sufficiently acquainted with it to enable them to recommend this vaccine to the girls or adolescents that do not currently belong to a group that the Inter-territorial board of the National Health System includes for systematic vaccination.

Pediatric dentists, primary health care members and professionals with diagnostic and therapeutic responsibilities for oral lesions of the human papillomavirus, should have documented replies for questions related to the vaccination against this virus.

Objectives: The ultimate aim of this work is to put at the disposal of pediatric dentists information to facilitate decision making when they are consulted on this vaccination.

Methods:

- A search was carried out of the data on this virus.
- A search was carried out of the data related to the vaccines that are currently recommended as well as on the legislation regarding their application.
- The attitudes and decisions adopted by the different Spanish Autonomous Communities and by the different countries around us were analyzed.
- A search was carried out on how it is being administered and an analysis made.
- A search was carried out of the known side effects and the degree of protection against the vaccine.

Conclusion: This work is only aimed at enabling pediatric dentists to take decisions with regard to HPV when they are questioned about it. Were we to present one or more conclusions, we could be accused of deontology, and of being politically incorrect, given that we could influence the taking of decisions with regard to a measure that is merely preventative and is, as such, subject to effects on the individual and, more especially, on a group of citizens. It is up to pediatric dentists themselves to draw their own conclusions.

21. XYLITOL: NO MORE CARIES

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Introduction: In this document we will highlight the characteristics of xylitol and its anticariogenic effects. It is a pentitol that can be found in many fruits, vegetables, yeasts, fungi and lichens. It should be mentioned that xylitol inhibits the growth of *Streptococo pneumoniae*, which is responsible for otitis media. It reduces DMFT scores more than any other methods, and for this reason it has been called "a molecular tooth brush". Regarding periodontal disease, it has a preventative effect, and it reduces *Candida albicans*. It has been recognized as safe by the FDA and the WHO. It is safe in pregnancies, diabetes and hypoglycemia.

With regard to its anticariogenic properties it is beneficial as calcium and phosphate ions are stabilized in the saliva and the acid cannot be metabolized by most bacteria. As a result of a reduction in the acid component, there is an increase in salivary flow that produces an increase in pH, which favors remineralization of the lesions of incipient enamel caries. The acquired pellicle volume is reduced, and the growth of bacteria such as *Streptococcus Mutans* is inhibited.

Objectives: The effect of consuming xylitol is analyzed together with the action that this has on the oral cavity.

Material and methods: A systematic revision of the literature was carried out in journals and electronic

databases, in which xylitol was the main component of the study.

Conclusions: The consumption of xylitol as the only measure for preventing dental caries is not sufficient. If we use it in conjunction with good oral hygiene, the incidence of new caries is 50-80%. If mothers consume xylitol during pregnancy there is a 70% reduction in the rate of caries in their children. The administration in the form of chewing gum is efficient. Better anti-caries results are

obtained the longer it is masticated, and with natural chewing gum.

For reducing the incidence of caries in the long, term chewing gum with xylitol should be masticated for a year before dental eruption, and a reduction in new caries of 93% will be achieved. It should be pointed out that if administered in high doses, above 30-40gr/per day in a single dose, it may lead to stomach aches, and temporary diarrhea.