

IMPACTED INVERTED SUPERNUMERARY TOOTH IN A BOY: MINI-INVASIVE ENDOSCOPIC APPROACH

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Aim: this report presents an extremely rare occurrence of an impacted inverted supernumerary tooth (ST) associated with a follicular cyst in a teenager patient.

A 14-years-old boy came to our observation for a first attempt at the University Hospital “Federico II”, Naples, Italy. The orthopantomography (OPT) revealed an impacted inverted ST in the anterior maxilla, surrounded by an unilocular radiolucent area. A cone-beam computed tomography (CBCT) showed that the crown was in close approximation to the nasal fossa floor. Thus, an endoscope-assisted surgical treatment was planned to improve visualization and preserve all the key anatomic structures.

Methods: the patient was treated under general anesthesia. A vestibular approach was chosen and a trapezoidal and para-

marginal flap was made with a total thickness, from right upper lateral incisor to left upper lateral incisor. Then, osteotomy was made to enable the complete removal of the ST, along with the soft tissue mass. The residual bone cavity was filled with fibrin sponges. Finally, a detached stitches suture was performed.

Results: the soft tissue mass was confirmed as follicular cyst by histological analysis.

The post-surgical phase was uneventful. The patient was followed-up at 1 week and 2 weeks from the surgery. Six months later, the intra-oral examination revealed a complete healing.

Conclusions: this case was solved with an endoscopic surgical approach, allowing to obtain a higher accuracy and a greater respect of the anatomic structures, preserving bone, and preventing possible damage.

HECK'S DISEASE: A CASE REPORT WITH MOLECULAR DIAGNOSIS

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Aim: focal epithelial hyperplasia (FEH) or Heck's disease, is a rare benign condition of the oral mucosa caused by HPV subtypes 13 and 32. The disease typically affects young Native American patients and is characterized by multiple asymptomatic papules on lips, tongue, and gingiva. The etiology of FEH is unknown, but the ethnic and geographic distribution suggests that genetic predisposition plays a pivotal role. Diagnosis is often based on clinical presentation and histopathology, but HPV genotype can be determined using PCR with specific primers.

Methods: we report a case of a 11-year-old boy who presented with asymptomatic papules, located on the lower lip and buccal mucosa. Medical history was mute.

Results: histopathological analysis showed the presence of hyperplastic squamous epithelium with papillomatosis, para-

keratosis and acanthosis. The rete ridges were widened and elongated. There were multiple cells with clumping of nuclear chromatin (mitosoid bodies) and cells with perinuclear vacuolization and irregular nuclei (koilocytes) within the spinous layer. HPV-PCR and sequencing revealed the presence of HPV13-DNA, consistent with the diagnosis of FEH.

Conclusions: a correct diagnosis of FEH may be made both clinically and histologically; however, standard molecular assays used to identify low- and high-risk HPV subtypes do not screen for HPV13 or 32. If HPV13 or -32 is suspected, specific PCR for HPV identification and sequencing should be performed. FEH is a benign condition that typically regresses spontaneously, and it is not associated with malignant transformation.

ORAL HEALTH AND MANAGEMENT STRATEGIES IN HYGIENE SESSION IN PRESCHOOL CHILDREN WITH ASD

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Aim: Autism Spectrum Disorders (ASD) have a prevalence of 1-5%. Children with ASD find no answer for their needs and requirements in dental field. Our aim is to observe major problems these children face with, role that family plays in care as well as strategies that dental professional can adopt to manage operative session, preventing onset or worsening of oral pathologies.

Methods: 42 Patients were recruited at Dental school and Child Neuropsychiatry of University of Verona. Two visits of 30 minutes for each patient were set to allow the children to adapt to environment and professionals properly. Visits included: oral inspection, photos, questionnaire addressed to the caregiver about eating habits and home oral hygiene. Caregivers were instructed devices and tools for proper domiciliary

dental hygiene and to increase child's compliance.

Results: oral health of autistic population was found at risk due to poor facilities for those weak children. An increased dmft was highlighted compared to that in the literature for healthy children, poor oral hygiene was detectable in all sample (augmented plaque index). Behavioral difficulties, anxiety and phobia towards dental procedures result in difficult professional oral hygiene sessions.

Conclusions: difficulties of caring ASD patients are an important issue to deal with, helping and supporting caregivers could be a pivot action to improve cares of ASD patient. It would be desirable to create suitable access routes to oral care and parents' education thanks to the collaboration of occupational medicine and dentistry.

DENTAL ANOMALIES IN PRIMARY DENTITION: THE IMPORTANCE OF INTERCEPTIVE TREATMENT

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Aim: dental anomalies in primary dentition are less common rather than in permanent dentition. Early diagnosis and treatment are indispensable to prevent different risks: delayed exfoliation, diastemas, crowding, deviation of midlines, impaction, dental caries, ectopic eruption and other orthodontic, aesthetic and phonetic problems. These anomalies are often associated between them and in high percentage they are repeated in the permanent dentition.

Methods: clinical and radiographic examination are necessary to the diagnosis. Four different cases of number and shape anomalies in primary dentition has been analyzed: mesiodens, agenesis, supplementary teeth and fusion.

Results: the most common clinical complications of mesio-

dens include an abnormal central diastema, delayed eruption, abnormal tooth eruption and aesthetic problems. Congenitally missing primary and permanent maxillary lateral incisors are often related. This condition is associated with an increased risk of impaction of upper canines and needs to be monitored. Supplementary teeth are rarely observed in deciduous dentition, and they can cause problems in the eruption and alignment of normal dentition. Fusion is more commonly associated with dental caries.

Conclusions: early treatment of dental anomalies in primary dentition is important to prevent different implications. A long-term follow up is likewise necessary until the completion of permanent dentition.

MANDIBULAR BUCCAL BIFURCATION CYST: SURGICAL MANAGEMENT IN AN 8-YEAR-OLD GIRL

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Aim: Buccal Bifurcation Cyst (BBC) is an inflammatory odontogenic cyst that develops on the buccal aspect of the first or second permanent mandibular molar in children. Swelling of the involved area, delayed tooth eruption or partial tooth eruption with deep periodontal pockets can be observed. In some cases, infection, with drainage of pus, and pain can be present. The patient who came to our observation at the University Hospital “Federico II”, Naples, Italy, was an 8-year-old girl with a chief complaint of painful swelling on the left side of the face. Radiographic images showed the presence of a radiolucent well-defined lesion, involving the periapical region of the left permanent first mandibular molar.

Methods: the surgical procedure was conducted under general anesthesia: a full thickness flap was performed, and

the lesion was carefully detached and enucleated. The removed tissue was stored and sent for histopathological examination.

Results: histological examination showed a thin nonkeratinized stratified squamous epithelium and chronic inflammation, compatible with BBC. The healing of the lesion was followed-up clinically and radiographically at 3, 12 and 24 months, showing the absence of relapses.

Conclusions: BBC characteristically involves the buccal region of the mandibular first molar, usually during the first decade of life. The diagnosis is established by correlation of clinical, radiographic, surgical, and histologic findings. Surgical enucleation of the cyst without extraction of the involved tooth is effective in the management of BBC.

CLASS III TREATMENT WITH MIXED-ANCHORING ERP IN A CASE OF PARTIALLY EDENTULOUS MAXILLA

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Aim: miniscrews, as an alternative method for absolute orthodontic anchorage, have been extensively used in the last few years. The major advantages compared with dental implants or microplates are small size, allowing placement in many intraoral areas, low cost, and easy implantation and removal.

The aim of this study is to use of mini-screws in a complex case of class III orthodontic correction with the use of a hybrid expander in partially edentulous maxilla.

Methods: this study presents a case report of a pediatric patient with class III malocclusion and partial edentulism as surgical result in order to remove maxillary melanocytic progona at 40 days of age, in a patient who came to our observation at the age of 9 y. To this end, a rapid palate expander (ERP)

was developed with a mixed anchorage: dental in the first quadrant and skeletal in the second quadrant by inserting miniscrews in line with the missing tooth elements. Anchorage control during tooth movement is one of the main factors for ensuring successful orthodontic treatment.

Results: after one year, the treatment results are evident at the dental level with the resolution of class III malocclusion as well as the skeletal asymmetry of the palate and cephalometric improvement in the intermaxillary relationship.

Conclusions: this case shows that the use of mini-screws in the construction of hybrid devices significantly contributes to the resolution of complex orthodontic cases in a multidisciplinary approach.

SURGICAL APPROACH TO AN IMPACTED SUPERNUMERARY IN A PEDIATRIC PATIENT: A CASE REPORT

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Aim: the purpose of this case report was to identify the right diagnosis and surgical steps of a supernumerary tooth that allows optimal treatment of the element.

Methods: the mesiodens is the most frequently observed supernumerary element, which is a cone-shaped tooth generated at or near the maxillary sutures. A mesiodens is usually detected radiographically or by CT cone beam in the first decade, when it may lead to median diastema and asymmetric eruption of permanent central incisors. Our case shows a pedodontic patient of 10 years old with two supernumerary conical teeth in the anterior sextant. The first one erupted lateral to the interincisive suture, second one in vestibular inclusion. The CT cone beam showed the anomalous path of eruption of the two centrals in a general context of total nor-

mal interarch relationships. According to literature, the best time to operate on supernumerary elements in the anterior maxillary area seems to be between 6 and 7 years. We decided to plan the avulsion of the first erupted tooth and to proceed with the setting up of a vestibular mucoperiosteal flap under general anesthesia.

Results: through CT scan it was possible to plan the surgery and reduce all complications related to the procedure such as bleeding, injury to permanent teeth, cystic or neoplastic degeneration of the follicle

Conclusions: the presence of a supernumerary is common in everyday dental practice, if the surgical removal is performed in mixed dentition, the permanent central incisor will erupt in the arch, otherwise orthodontic treatment will be necessary.

UPPER LIP FRENULOTOMY IN A CHILD WITH RADIO FREQUENCY DEVICE: A CASE REPORT

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Aim: to report a case of lip frenulotomy with radio frequency device.

Methods: a 7-year-old good health male patient came to our observation for a hypertrophic short upper lip frenulum. The child had a major diastema between elements 11 and 21 and had to undergo orthodontic therapy. The orthodontist had requested our advice to perform a possible frenulotomy, as the hypertrophic and slightly short labial frenulum was considered the cause of the diastema. Frenulotomy, after anesthesia with mepivacaine with adrenaline 1: 100,000, was performed with an ablative radiofrequency device (Top Quality Group, Città di

Castello, PG, Italy), monopolar, with long tip. The frequency emitted by the handpiece is comprised between 30 to 150 KHz, the power used was 65%. After drying the lip with cotton rollers and aspirators, the radio scalpel was used for 8 minutes with very delicate horizontal movements above the frenulum.

Results: during the entire duration of the operation no bleeding, not even the slightest was observed. Healing at 5 days was optimal.

Conclusions: radiofrequency devices can be considered safe and effective to perform minimally invasive frenulotomies in pediatric age.

EFFECTIVENESS OF A NEW SELF-ADHESIVE COMPOSITE HYBRID IN A SPECIAL-NEEDS PATIENT: A CASE REPORT

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Aim: aim of this case report is to evaluate a new self-adhesive composite hybrid, recently marketed as a device for restorative treatments, even in most difficult cases, such as treatment of special needs patients. Manufacturers suggest it by comparing its efficient and easy-to-use procedure with restoration longevity and ability to release fluoride. In the UOC of Paediatric Dentistry, *Sapienza*, University of Rome, this material was applied in I and II classes cavities.

Methods: an 8 y.o. Autism Spectrum Disorder (ASD) patient was treated for several cavities. Due to patient's pathology, removal of carious lesions was performed only using manual instruments. Furthermore, it was not possible use normal procedures for isolating operative field with rubber dam. For these reasons Surefil One (Dentsply Sirona®) was positioned on pre-

pared surface, following manufacturer's instructions. The patient was placed on a 1-year follow-up program.

Results: the treatment was performed in a single appointment, without losing patient compliance, achieving a definitive restoration. During follows up restoration respected parameters of a good performance, such as shape, function and biointegration.

Conclusions: Clinically Surefil One (Dentsply Sirona®) has been demonstrated that it respects characteristics reported by manufacturers. This restorative device could be a predictable tool for restorative treatment of those cavities where it is not possible to avoid a whole operative field isolation. For these clinical features it could be suitable for treatment of special needs patient.

A RARE CASE OF NON-TUBERCULOUS CERVICAL ADENITIS OF ODONTOGENIC ORIGIN

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Aim: the aim of the study is to make a differential diagnosis between odontogenic abscess and non-tuberculous mycobacterial adenitis (Non-Tuberculous Mycobacteria, NTM) and to carry out the correct treatment.

Methods: an 8-year-old girl presented for observation because of a right submandibular skin fistula at the lymph node site. Drainage and antibiotic therapy were administered. Since there was no resolution, a microbiological investigation for tuberculous mycobacterium was carried out, which proved negative. Following the persistence of the solution of continuity, a culture for atypical mycobacteria was carried out and, after endoral X-ray, the extraction of the carious element 8.5 was planned, as it was considered a possible means of spreading mycobacterium to the lymph node station.

Results: the bacterial culture, associated with the absence of periapical lesions, confirmed the presence of the atypical mycobacterium and allowed the diagnosis of non-tuberculous cervical adenitis and the exclusion of a classic odontogenic abscess. Extraction of the involved element led to healing of the solution with scarring outcome.

Conclusions: non-tuberculous cervical adenitis, also known as scrofula, is a rare lymph node infection that predominantly involves children, who are usually immunocompromised. On the basis of this case report, it can be concluded that teeth affected by destructive caries may be the conduit through which this bacterium can reach the lymphatic system and replicate causing the disease.

COATS DISEASE AND ORAL MANIFESTATIONS: A POSSIBLE LINK?

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Aim: we would like to describe a case of Coats' Disease (CD) in a pediatric patient with particular oral manifestations and to perform a small literature review.

Methods: we report a case of a 7-year-old girl with sovranumerary teeth, very early exchange of dental elements and an exophytic intraosseous lesion on the upper gingiva with a previous diagnosis of CD. We used PubMed, Elsevier and Google Scholar to prove if a correlation between CD and her oral condition exists. We used "sovranumerary teeth in syndrome" and "Coats disease", "Coats disease oral manifestations" as keywords.

Results: CD is an idiopathic ophthalmic condition characterized by unilateral teleangiectasias and intra- or sub-retinal exu-

dition, which leads to retinal detachment and blindness.

The exophytic intraosseous lesion is localized among elements 1.2 and 1.3. It presents as rapidly growing, no mobile and of hard consistency; from CT investigation we assert it does not erode the cortical bone. Its nature is still under investigation. In literature uncommon ophthalmic diseases also giving oral manifestations are reported. We consider Nance-Horan Syndrome and Oculo-facio-cardio-dental Syndrome, although very rare, for a differential diagnosis, where oral anomalies and ocular lesions are linked together.

Conclusions: we cannot assume for sure this oral condition is linked to CD, due to the lack of data and to the rarity of the pathology, this could be the first case documented.

GUM HYPERTROPHY AND ACNE VULGARIS: ROLE OF ORAL HYGIENE WITH TOPICAL PROBIOTICS

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Aim: the aim of this work is to report the effect of the *Lactobacillus reuteri* on gingival swelling in two orthodontic patients.

Methods: a 14-year-old female and a 15-year-old male patients in general systemic good health with acne vulgaris developed gum hypertrophy related to fixed orthodontic treatment, refractory to professional oral hygiene. Tablets of *Lactobacillus reuteri* DSM 17938 ATCC PTA 5289 was prescribed to be taken twice a day, for four weeks, slowly dissolving in the mouth after careful oral hygiene. Patients were advised not to drink, eat or rinse for the next 60 minutes, and to avoid mouthwashes.

Results: at the fourth-week follow-up in both cases, there was a marked improvement in hypertrophic gingivitis with a reduc-

tion of the plaque and bleeding indexes. A reduction of the acne vulgaris on the skin of the face was also observed. In the girl already after the first week of probiotic therapy, a less dry and brighter skin was evident, at 3 weeks the improvement was very more marked. The male patient was observed at 1,2 and 3 weeks. Also in this case, the improvement in skin inflammation was evident, the skin was velvety and at 4 weeks almost free of pimples.

Conclusions: *L. reuteri* may be a useful probiotic agent to control the growth of bacteria involved in oral inflammation and acne. It prevents these two conditions, because of its ability to produce substances against pro-inflammatory agents, cariogenic bacteria and oral biofilm formation.

PEDIATRIC AMELOBLASTIC FIBROMA: A CASE REPORT IN A 12-YEAR-OLD CHILD

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Aim: ameloblastic Fibroma is a rare benign odontogenic tumor composed of epithelial and mesenchymal tissue, located in most cases in the mandible premolar-molar region of young female patients. Its etiology is unknown, and it can be diagnosed during routine oral examination or with an orthopantomograph. In most cases this lesion is associated with an impacted tooth and from the histological point of view, it is characterized by plump fibroblasts and collagen fibrils. The aim of this case report is to show the treatment of a 12-year-old girl presenting a suspicious neoplastic lesion of the left posterior region of the mandible, associated with an impacted tooth.

Methods: clinical and radiographic examination (orthopantomography and computed tomography), showing an impacted

inferior second molar with a radiolucent pericoronal lesion, were compatible with the diagnosis of pediatric ameloblastic fibroma. The lesion was treated with complete enucleation and bone curettage; tooth 37 was also extracted. The histopathological examination confirmed the diagnosis of ameloblastic fibroma.

Results: one year follow up orthopantomography and computed tomography were performed showing bone defect healing and no evidence of recurrence.

Conclusions: in this case report, a conservative therapy provided a good healing with no sign of recurrence after one year from surgical treatment, however bone resection can be considered in larger and recurrent lesions.

PERIPHERAL GIANT CELL GRANULOMA IN A 3-YEAR-OLD GIRL: A CASE REPORT

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Aim: Peripheral Giant Cell Granuloma (PGCG) is a benign, reactive lesion that clinically presents as a soft to firm, reddish purple, polypoid, or nodular lesion, occurring most frequently on the alveolar ridge or gingiva of anterior area of the mandible. It is encountered often in adult population, more rarely in children and in this case the lesion appears to be more aggressive. The patient who came to our observation at the University Hospital "Federico II", Naples, Italy, was a 3-year-old girl, presenting an increase of soft tissue with an inflamed appearance in the lingual anterior mandibular zone. Patient's mother referred a previous trauma of that area. Radiographic images showed a radiolucent lesion and early root resorption of 7.1, 8.1, 8.2.

Methods: a complete surgical removal of the lesion was planned under general anaesthesia, because of the age of the pa-

tient. Excision was carried out along with curettage, to lessen the chances of recurrence, and involved primary teeth were extracted. The removed tissue was stored and sent for histopathological examination.

Results: the histological examination of the surgical piece revealed the presence of abundant giant multinucleated cells, high mitotic activity and abundant haemorrhagic foci, compatible with PGCG.

After surgical healing, the patient was recalled every month. No recurrence has been reported six months post-excision.

Conclusions: a complete surgical excision with curettage is effective in the management of PGCG in children. Because of the potential recurrence of this type of lesion, a close follow-up is recommended.

DOUBLE STEP TECHNIQUE IN SEVERE CARIOUS LESION: A CASE REPORT WITH 1 YEAR FOLLOW UP

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Aim: Silver Diamine Fluoride (SDF) is a solution that combines the antibacterial effects of silver and the remineralizing effects of fluoride, reducing biofilm counts and hindering the degradation of collagen. The aim of this study is to describe the management of a carious lesion in an uncooperative patient by application of SDF followed by Glass Ionomer Cement (GIC) filling.

Methods: a 7-year-old female was referred to the dental clinic and presented multiple carious lesions on primary teeth and a destructive lesion on a first molar (16) that was valued 5 on the ICDAS scale. The child showed a very uncooperative attitude towards dental treatments, so a non-invasive approach was chosen: SDF was applied directly to the surface of the affected tooth for 1 minute, instructing the child to avoid eating

and drinking for 1 hour. Hygiene and dietary recommendations were given. A second SDF application was carried out 1 month later. After another month, the caries lesion was arrested: probing with a light force, the dental tissue resulted hard. Since the patient's cooperation improved, a minimally invasive approach was adapted, filling the cavity with GIC.

Results: at 1 year follow up, no signs/symptoms of infection were recorded, and radiographic assessment confirmed clinical findings, showing an increased radiopacity of the carious tissue and a complete root formation.

Conclusions: application of SDF, especially if repeated, followed by ART, can be a valid alternative in arresting cavitated lesions in pediatric patients, in particular those with a low grade of collaboration.

ORTHODONTIC TREATMENT OF ANTERIOR CROSS-BITE: PARODONTAL CLINICAL ASPECTS

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Aim: the aim of this case report is to evaluate the changes that may affect the periodontal structure of the maxillary anterior teeth, by labial tipping of the maxillary tooth, during the orthodontic correction an anterior cross bite.

Methods: a young healthy girl, in mixed dentition, affected by an anterior crossbite-monitored also from a periodontal point of view, has been added in this case. Treated with the utility arch proposed by Ricketts, with braces bonded on the incisors and bands on the upper molars.

Results: after 9 months of treatment there is an alteration in gingival and periodontal structure involving the element 1.1 with a creation of a pocket depth of 5mm. In the resolution of anterior cross-bite, the movement of the maxillary teeth can

bring it into an unfavorable position where there is lack off bone and gingival tissue. In this case after the debonding, gum regained a normal shape gradually and improved its aspect during the follow up of 15 months without a surgical intervention.

Conclusions: in some articles it has been stated that there is no permanent damage to healthy periodontium after and during orthodontics treatment, others that it can cause gingival recession and an earlier periodontitis. Orthodontic correction of anterior crossbite leads to a temporary increase in gingival inflammation and probing depths during treatment. Analyzing periodontal changes, which can be fleeting or lasting, oral hygiene, orthodontic movement, tooth position, gum thickness and alveolar bone should also be considered.

PEDIATRIC DENTISTRY RESEARCH AND CLINICAL EXCHANGE BETWEEN ITALY AND KENYA

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Aim: training and updating of dentists working at the Pediatric Dentistry unit of Neema Hospital of Nairobi. The ward was opened in September 2021, thanks to an Italian family, aiming at providing adequate dental care for children in Nairobi, with particular attention to the most vulnerable children of the slums where “Alice for Children” association operates.

Methods: the project started in October 2021: the first phase consisted in defining the baseline of the colleagues’ work, on which we customized increasingly more complex online seminars. In the second phase, the classes focused on topics requested from the trainees. In the third phase a messaging group was created, for a prompt response to clinical questions and the possibility of immediate video calls.

Results: in 5 months of collaboration, a significant improve-

ment in the clinical activity of our African colleagues was observed: they have enhanced the documentation of clinical cases, with better quality intra/extraoral pictures and intraoral x-rays, these allow a more accurate diagnosis and consequently to set up a better treatment plan. Furthermore, improved communication with parents led to fewer abandonments of treatment plans.

Conclusions: “Alice for children” takes care of 2840 children from the slums, who can benefit from free dental check-ups; 100 were made with nearly 60 caries treatments. In such a contest in Nairobi, promoting oral health needs highly trained doctors. The knowledge shared has allowed more successful treatment. Future goals will be on-site training and a focused epidemiological investigation.

ASSOCIATION BETWEEN DDE, RAS AND CELIAC DISEASE IN MIXED DENTITION: A CASE-CONTROL STUDY

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Aim: this case control study aims to compare the prevalence of Developmental Defects of Enamel (DDE) and recurrent aphthous stomatitis (RAS) in children with Celiac Disease (CD) and in healthy controls.

Methods: the study was carried out on children aged 6 to 12 years of both sexes enrolled in Bologna at the Ospedale Maggiore. Unaffected children represented the control group (n = 100), children neo-diagnosed with CD represented the case group (n = 100). Diagnosis of DDE was made using the Aine classification, while RAS presence and history was investigated through a clinical examination and an ad hoc prepared questionnaire.

Results: among 100 celiac patients, 49 had at least one tooth affected by DDE, while among 100 healthy controls only 12 children showed DDE presence. In celiac patients, the most af-

ected teeth were deciduous first molars (38,3%), followed by deciduous second molars (22,2%), permanent incisors (17,2%), permanent first molars (13,2%) and deciduous canines (9,1%). The majority of healthy controls showed grade 1 DDE (discolorations), while grades 1, 2 (slight structural defects) and 3 (obvious structural defects) DDE were found in CD children. Among celiac children, 46 had or referred RAS history, while among the healthy controls only 9 children were diagnosed with RAS. RAS were observed more frequently as minor and maior lesions.

Conclusions: the high presence of DDE and/or RAS recorded in children with CD, calls to evaluate the presence of celiac disease in all children with these oral manifestations, in order to diagnose atypical or silent forms of the disease.

ORAL HEALTH DURING PREGNANCY AND EARLY CHILDHOOD: A SURVEY ON A SAMPLE OF MOTHERS IN ITALY

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Aim: children's oral health is closely related to mothers' oral health. The aim of this study was to evaluate mothers' knowledge about oral health during pregnancy and in early childhood of their children.

Methods: an anonymous questionnaire was administered to 1291 women with at least one child 0 to 36 months old. The questionnaire was divided in 3 domains: demographic characteristics, oral health during pregnancy and child's oral health. ANOVA was used to evaluate association between answers and demographic information and Pearson's index to evaluate items correlation.

Results: the majority of mothers (73%) declared to go to the dentist before pregnancy, but just 39% during pregnancy. Just 19% of mothers believe that oral problems may affect pregnancy and baby's health. More than half (65%) of sur-

veyed didn't receive oral health information during pregnancy. Pearson's index shows a correlation between those who have been to the dentist and who received advice on oral health. Although 91.6% of mothers believe that primary teeth are important, just 35.2% know that cariogenic bacteria can be transmitted from mother to child. The majority of women (83.9%) don't know the effects of prolonged bottle or breastfeeding. Better knowledge resulted associated with a higher level of mothers' education and employment and more than a child.

Conclusions: oral health prevention programs during pregnancy need to be implemented. Health care professionals that care mothers during pregnancy and newborns need to collaborate with pediatric dentists to improve in mothers' healthy behaviors.

TREATMENT PROTOCOL FOR CHILDREN WITH SUSPECTED OBSTRUCTIVE SLEEP APNEA SYNDROME

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Aim: Obstructive Sleep Apnea Syndrome (OSAS) is characterized by intermittent nocturnal episodes of total or partial obstruction of the upper airways, with interruption of nocturnal ventilation and normal sleep patterns. Prevalence in children has a wide range, from 1.2% to 5.8%, due to the lack of an uniform estimation in literature. The aim of this study is to define a management protocol for children with suspected OSAS.

Methods: our sample included 48 subjects between 5 and 15 years old with suspected OSAS based on nocturnal and diurnal signs and symptoms and clinical evaluation. In order to confirm diagnosis, all 48 children underwent a Home Respiratory Polygraphy (HRP). Children with OSAS were classified into 2 subgroups: children with and without contracted palate.

The first group underwent orthodontic treatment, while the second one was referred to other specialists.

Results: 10 patients with suspected OSAS resulted positive at HRP. 6 of 10 needed orthodontic treatment: 5 underwent rapid maxillary expansion, 1 is awaiting for orthognathic surgery; children with OSAS but without indications for orthodontic treatment, were referred to the cardiologist and otolaryngologist. The other 38 children without confirmation of OSAS are periodically monitored.

Conclusions: the diagnosis and treatment of OSAS in children requires a multidisciplinary approach, where dentists have a fundamental sentinel role for an early screening of this pathology often underdiagnosed, but with important consequences on the quality of life in pediatric subjects.

ORAL MANIFESTATIONS IN CHILDREN AFFECTED BY DIGEORGE SYNDROME: A CASE SERIES

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Aim: the aim of this study is to present the oral manifestations of two brothers affected by DiGeorge syndrome. DiGeorge syndrome also known as 22q11.2 deletion syndrome is a rare syndrome caused by a microdeletion on long arm of chromosome 22. The main symptoms are congenital heart defects, palatal abnormalities with velopharyngeal insufficiency, immune deficiencies due to thymus hypoplasia, hypoparathyroidism with hypocalcemia, renal and gastrointestinal diseases and brain involvement causing learning and intellectual disabilities.

Methods: G.R. (16 years old) and L.R. (8 years old) are affected by DiGeorge syndrome and attended the Paediatric Dentistry Department of Policlinico of Bari.

Results: the clinical examinations showed diffuse hypomine-

ralization and several caries, concordant with literature: McDonald-McGinn DM [2000], Nordgarden H [2012], AlQarni MA [2018] and Wong DH [2021]. Both patients were treated under conscious sedation; oral prophylaxis, fluoride application, pulp therapy, extractions of hopeless teeth and restorations of carious and hypomineralised teeth were performed.

Conclusions: the management of patients with DiGeorge syndrome should be conducted by a multidisciplinary dental team, with an early pathway of prevention and follow-up. The literature on oral manifestations of DiGeorge syndrome is rather sparse. However, our review of relevant literature indicated that a early diagnosis of oral manifestations is mandatory in DiGeorge syndrome patients to improve the quality of their life.

EFFICACY OF ELASTODONTIC DEVICES ASSESSED VIA 3D IMAGING TECHNOLOGY. A PROSPECTIVE STUDY

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Aim: the aim of the present study was to evaluate the skeletal and dento-alveolar changes and palatal morphology of children with early signs of malocclusion, obtained after 1 year of treatment with Elastodontic Appliances (EA).

Methods: the study included 20 subjects aged between 7-10 years with a skeletal and/or dental class II malocclusion who received treatment with EA for 1 year (study group) and a control group of 20 subjects aged matched. Skeletal and dentoalveolar parameters were compared between T0 and T1, after analyzing L-L radiograph and intra-oral scans. A 3D imaging technology (deviation analysis and surface-to-surface matching technique) was used to compare palatal morphology between T0 and T1.

Results: in the study group, there was an increment of the

number of subjects showing no signs of crowding and a Class I occlusal relationship compared to the control group, from T0 to T1. In the treated group, there was a statistically significant reduction in overjet and overbite from T0 to T1 ($p < 0.05$) compared to the control group. In the study group, no significant differences were found between the SNA^\wedge values detected at T0 and T1 ($p > 0.05$), instead, the SNB^\wedge , ANB^\wedge , and IIA^\wedge values showed a significant increment ($p < 0.05$). Finally, the 3D deviation analysis shows a significant recovery of the palatal asymmetry (+ 8.15%) in the treated subjects, compared to the control group (- 0.76%) ($p < 0.05$).

Conclusions: EAs could be effectively used for the interceptive orthodontic treatment as well as for favouring the harmonization of maxillary growth.

GERMECTOMY OF THIRD MOLAR AND MANAGEMENT OF SECOND MOLAR IMPACTED: TIMING AND EARLY DIAGNOSIS

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Aim: the purpose of this study was to investigate third molar germectomy and the management of lower second molar impaction and retention in a pediatric population sample. Impacted second molar tooth represent a rare eruption defect with a prevalence between 0-2,3%. This condition should be diagnosed and treated early with a multidisciplinary approach between the age of 9-12 years.

Methods: this study was conducted at the Department of Oral and Maxillofacial Sciences of Sapienza University of Rome, UOC of Pediatric Dentistry. A sample of 10 pediatric patients aged 9 to 12 (5 male and 5 female) was retrospectively investigated by evaluation of orthopantomograms. According to Demirjian's classification we evaluated stage D of tooth calcification, i.e., when crown formation is complete up to

dentin-enamel junction associated with an anatomical bone inclusion.

Results: our results confirm that there is no clear standard solution for the treatment of the retained or impacted second molar. Early germectomy of the lower third molar remains the best therapeutic choice to promote eruption of the impacted second molar, but a surgical-only approach has proven to be insufficient to ensure its proper eruption. As shown in our study, the association between surgical exposure and orthodontic intervention were found to be the most successful treatment.

Conclusions: the management and treatment of impacted lower second molars require a multidisciplinary approach, which involved surgical techniques and orthodontic biomechanics.

DIRECT CAPPING OF DECIDUOUS TEETH WITH A BIO CERAMIC CEMENT: CROSS-SECTIONAL PANEL STUDY

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Aim: the study's primary aim was to evaluate the pulp viability of deciduous teeth after direct capping with calcium trisilicate cement.

Methods: assuming a success rate of 80% of the direct capping procedure, the sample size was set at 62 patients. Primary molars with an ICDAS decay between 4 and 6, asymptomatic and not previously treated, with accidental pulp exposure during decay removal were selected in patients with 5 to 9 years of age if matching radiographic criteria. Not isolable elements were excluded. Teeth were treated with direct pulp capping with a bioceramic cement and restored following the usual clinical procedure. Follow-ups were scheduled after 3 (T1) and 12 months (T2), checking the response to thermal stimulus and percussion

test, presence of fistulas, phlogistic processes, or mobility. At T2, an x-ray was planned to evaluate any signs of pulp distress, root resorption, or calcification of the pulpal tissue.

Results: 10 patients have been enrolled so far. Preliminary results showed that at T1 only 2 out of 10 teeth showed an increased response to the thermal stimulus and only one had a grade 1 mobility without symptoms. No teeth had a positive response to the percussion test.

Conclusions: direct pulp capping of primary teeth is a less invasive and faster treatment than pulpotomy. The results of this study are still partial but promising because in 80% of teeth treated with the calcium trisilicate cement the pulp viability was maintained.

SURVEY ON WOMEN'S KNOWLEDGE ON ORAL HEALTH AND NUTRITION IN PREGNANCY AND IN THE NEWBORN

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Aim: to evaluate the knowledge and attitude of pregnant women and new mothers about their own and their newborns' oral health and nutrition.

Methods: the study, designed as a cross-sectional observational survey, was performed at the IRCCS Burlo Garofolo, Trieste. 100 women aged 18-49 years were enrolled according to specific inclusion/exclusion criteria after the informed consent signature. Included women were divided into groups A = 50 pregnant women and B = 50 new mothers. An anonymous assessment questionnaire of about 20 questions divided into 3 domains (1: demographic and occupational data; 2: oral health data; 3: nutrition data) was given to all participants who received an informative brochure with advice on the topics object of the study.

A descriptive analysis was performed.

Results: 65% of participants were aged between 25 and 35 years, 52% had a high educational level, 92% were Italians. 14 pregnant women vs 29 new mothers stated to have received a dental checkup during their pregnancy; 13 pregnant women vs 30 new mothers had received information on oral hygiene practices in newborns; 11 pregnant women and 22 new mothers were informed that dental caries is an infectious transmissible disease and prolonged breastfeeding is a risk factor for Early Childhood Caries.

Conclusions: the results of this survey confirm that educational programs for future mothers on oral health and nutrition and multidisciplinary paths involving pregnant women's and newborns' caregivers are needed.

ORAL MICROBIOTA IN DEVELOPMENTAL AGE: IMPLICATIONS OF THE USE OF *S. SALIVARIUS* M18

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Aim: the aim of the work is to evaluate whether *S. Salivarius* M18 can be a protective factor towards the genesis of caries in developmental age.

Methods: the study was conducted at the Pedodontics Department in the Department of Medical, Oral and Biotechnological Sciences of the G. D'Annunzio Chieti-Pescara University. The oral health status of the child was assessed before, during and after therapy by administering the probiotic based on *Streptococcus Salivarius* M18 (Carioblis®). Clinical indices describing bacterial pathology (DMFT, FMPS and salivary pH) and quantitative values of *S. Mutans* colonies detected by observation of the culture media provided by the Kariescreen-test kits were considered. The sample examined was divided into the test group, subjected to administration of Carioblis®,

and the control group. The groups were evaluated in four time frames (T0-T1-T2-T3). For the statistical analysis, tests of normality (Shapiro-wilk test) and homogeneity of variances (Levene test) and ANOVA were performed.

Results: the clinical index values undergo a relative improvement, mainly due to the antibacterial action exerted by bacteriocins and to bacterial antagonism by *S. Salivarius* M18. Direct observation of the bacterial count shows a reduction in *S. Mutans* colonies in the test group.

Conclusions: considering the characteristics of *S. Salivarius* M18 and the possibility of controlling the clinical and bacteriological indices, the administration of these probiotics can be included in the control of the oral microbiota and in the maintenance of a state of eubiosis.

DIFFERENCE BETWEEN PREVALENCE OF OSA RISK IN DOWN SYNDROME PATIENTS WITH AND WITHOUT SLEEP BRUXISM

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Aim: obstructive sleep apnea syndrome (OSAS) is a sleep-related breathing disorder characterized by repetitive episodes of airflow cessation, resulting in brief arousals and intermittent hypoxemia. OSAS is associated with a number of adverse health consequences, and suspecting the disease is therefore an important matter. Aim of the present study is to observe if Down Syndrome patients with sleep bruxism have a major risk of OSAS than those without sleep bruxism.

Methods: twenty-five Down patients, 17 males and 8 females, median age of 16 years who were referred to the pediatric dentistry department at the A Gemelli Hospital, were analyzed. All patients underwent a complete dental examination, and their caregivers were asked to complete questionnaires in order to

assess OSA risk and risk of suffer from sleep bruxism. Chi Square Test was used to compare data.

Results: seventeen subjects presented high risk of suffering from sleep bruxism and 52% of those were also considered to be at high risk of OSA. Eight subjects presented a low risk of suffering from sleep bruxism and 25% of those were considered to be at high risk of OSA. The difference between groups was found to be statistically significant.

Conclusions: Down syndrome patients with sleep bruxism present a statistically significant higher OSA risk than patients without sleep bruxism. When evaluating Down syndrome patients experiencing sleep bruxism, the presence of OSA should be evaluated.

USE AND BENEFITS OF DIGITAL TECHNOLOGIES IN PEDIATRIC DENTISTRY

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Aim: the use of digital technologies in pediatric dentistry has shown a remarkable development in recent years. The purpose of this study is to show the benefits of these technologies over traditional techniques and its many applications. The digital workflow helps the pediatric dentist in both diagnosis and treatment. It reduces fear in the child and improves his collaboration in treatments.

Methods: for diagnosis, scanners are used for impressions and 3D models are then made. CAD CAM system is used for therapy. With this system many orthodontic interceptive devices can be made: palatal expanders, space maintainers, inlays with the function of space maintainers in case of infraoccluded teeth. New materials, such as PEEK, can also be used to design metal-free devices in special need patients.

Results: the results show that the scanners get rid of the unpleasant sensations of traditional alginate impressions and the speed of scanning reduces the time to the chairside and increases the collaboration. The impressions can be sent in real time to the dental lab. The precision of 3D models is very high and systematic errors that can be made during the various phases are eliminated. The computer simulation of the treatment plan is useful to the operator to virtually design and view the therapy, it is useful to inform parents and also increases the acceptance of the children.

Conclusions: the digital workflow improves the quality of the treatment, reduces time and costs. It's a valuable aid for pediatric dentistry and a widespread use of these technologies is desirable in the near future.

USE OF RME IN PEDIATRIC PATIENTS WITH OSTEOGENESIS IMPERFECTA

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Aim: the aim of the study is to analyze the results obtained following the use of traditional rapid palatal expanders or on mini-screws (RME) in patients with Osteogenesis Imperfecta and in treatment with quarterly infusions of Neridronate (BP) subject to specific orthopedic protocol.

Methods: in 10 years of clinical experience at the U.O.C of Pediatric Dentistry of Sapienza University of Rome, 50 patients suffering from Osteogenesis Imperfecta (7-12 years) underwent orthodontic treatment with RME. All patients were treated with quarterly infusions of Neridronate and with the same protocol that provides for a phase of beginning therapy with infusion of BP and the application in the following days of RME, the suspension of the subsequent infusion of BP at 3 months with maintenance of REM, and a subsequent resumption of BP infusions at

6 months. This protocol, applied in the orthopedic field for the execution of osteotomies of long bones, has been applied in the orthodontic field by assimilating the opening of the median palatine suture made by REM to an orthopedic osteotomy.

Results: the results obtained show that in all patients receiving REM and BP treatment with the same protocol, with a 10 years follow-up, no problems of management of rapid palatal expansion related to pathology or intake of BP have been identified.

Conclusions: in pediatric patients with Osteogenesis Imperfecta and treated with RME and BP with a specific orthopedic protocol, all palatal expansions were carried out regularly with normal ossification of the palate and absence of cases of osteonecrosis.

BOND STRENGTH TO PRIMARY TEETH OF SELF-ADHESIVE MATERIALS: A REVIEW AND META-ANALYSIS

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Aim: the objective of the present systematic review and meta-analysis was to assess the *in vitro* bond strength of Self-adhesive Flowable Composites (SFCs) and Glass Ionomer Cements (GICs) on primary teeth.

Methods: a literature search was manually and electronically carried out according to PRISMA statement on 4 databases (MEDLINE/PubMed, Google Scholar, Scopus, and Embase), to evaluate *in vitro* studies comparing GICs and SFCs bond strength values on primary teeth. Bond strength values of restorations on deciduous teeth made by conventional Flowable Composites (CFs) were used as control. Risk of bias of included papers was further evaluated and 3 groups of meta-analyses were performed.

Results: three articles met the inclusion criteria and underwent both qualitative and quantitative assessment. Although there was no statistically significant difference between SFC versus GIC groups, both materials provided significantly lesser bond strength than Conventional Flowable Composites (CFs).

Conclusions: CFs showed successful outcomes, however, the need for simplification of operative steps in young or uncooperative children introduced the use of SFCs as reliable alternatives. Within the limitation of the present study, it can be concluded that SFCs showed slightly better bond strength values than GICs, although the absence of significant difference, and may be considered a valid option in the restoration of deciduous teeth.

DEPTH OF CURE OF BULK-FILL FLOWABLE COMPOSITES: AN *IN VITRO* COMPARATIVE STUDY

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Aim: to evaluate and compare the Depth of Cure (DOC) of two bulk-fill flowable composites (Filtek Bulk Fill Flowable Restorative and Tetric EvoFlow Bulk Fill), two conventional flowable composites (Filtek Supreme XTE Flowable Restorative and G-ænial Flo X) and one high-strength universal injectable composite (G-ænial Universal Injectable).

Methods: specimens were placed in a stainless-steel mold with an orifice of 4 mm in diameter and 10 mm in depth and light-cured for 20 seconds using a LED LCU with an irradiance of 1000 mW/cm²; DOC was assessed using the ISO 4049 scrape technique and the absolute length of the specimen of cured composite was measured in millimeters with a digital caliber. The same procedure was repeated with 14 samples

for each material under investigation, for a total number of 70 test bodies.

Results: the average DOC of both bulk-fill composites was more than 4 mm, while the one of the conventional flowable composites was much lower; DOC of the high-strength injectable composite was greater than the one of traditional composites, but not to the level of bulk-fill materials. Statistical analysis revealed significant difference (p -values < 0,05) in the depth of cure between bulk-fill flowable composites and other composites while there was no difference (p -values > 0,05) between the materials of the same type.

Conclusions: bulk-fill flowable composites showed significantly higher depth of cure values than both traditional flowable composites and high-strength injectable composites.

PARENTAL ACCEPTANCE OF ADVANCED BEHAVIOUR MANAGEMENT TECHNIQUES IN PEDIATRIC DENTISTRY

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Aim: Advanced Behavior Management Techniques (ABMTs) are used to achieve successful dental treatments in uncooperative children and include passive/active restraint (PR/AR), N2O sedation and general anesthesia (GA). The purpose of this survey is to assess parental acceptance of ABMTs in children with or without disabilities, during routine dental care (RDC) and emergencies (E).

Methods: an anonymous questionnaire, already validated in several countries, was created on Google Forms and distributed at school or through social networks.

Results: 100 surveys were analyzed from the following groups: parents of children without disabilities with (Group 1 n = 25) and without previous experience of ABMTs (Group 2 n = 25), parents of children without disabilities with (Group 3 n =

25) or without previous ABMTs experience (Group 4 n = 25). Groups 1 and 2 stated that they preferred N2O sedation in both RDC (38% and 40%, respectively) and E (44% and 46%, respectively); Groups 3 and 4 chose AR as their preferred ABMT in RDC (40% and 46%, respectively). Regarding E, the aforementioned groups agreed that GA was the first choice (42% and 44%, respectively) on par with AR for group 3 (42%). Passive restraint was the least accepted by all in both treatment situations (RDC: 44%; E: 26%).

Conclusions: parents are more willing to consent to ABMTs in emergency situations; active restraint and N2O sedation were the most preferred techniques and general analgesia was more accepted than passive restraint in both ordinary and emergency situations.

MODIFIED VERSION OF THE C-OHIP FOR SCHOOL-AGED CHILDREN AFTER 2 YEARS OF COVID19: AN ITALIAN PROPOSAL

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Aim: the COHIP is a tool that assesses the impact of oral diseases on quality of life in children. Our aim is to propose a modified version of the C-OHIP for children 3-14 years old to investigate and analyze the impact of COVID-19 pandemic into children's life and dental health.

Methods: in February-March 2022, two questionnaires have been proposed according to age (3-6 yrs -45 items and 7-14 yrs -49 items) with five domains (oral health, functional well-being, socio-emotional well-being, school/environment, self-image). Answers (i.e. always, often, sometimes, almost never and never) refer to some conditions (i.e. general, psychological and dental) related to Covid-19 period and last 3 months.

Results: 100 questionnaires are filled: 50 for the 3-6 yrs group (44% female-56% male, mean age 5yrs) and 50 for the 7-14 yrs group (58% female-42% male, mean age 10 yrs). Respect

to the pre-pandemic period, in *Oral health* domain both groups show less interest in dental hygiene and prefer sweetest foods; in *Functional well-being* both groups report difficulties in sleeping; in *Social-emotional well-being* both groups mention to feel more sad, worried; regarding *School environment*, both are happy to go to school; in *Self-image* 3-6 yrs group has high levels of self-esteem.

Conclusions: Covid-19 pandemic seems to have higher impact on the 7-14 yrs group than the little ones. Measures to contain the spread of COVID-19 (e.g. school closures, quarantine and community lockdown) have been secondary impacts on children and families. Change of lifestyle habits overlooks oral health with unhealthy eating habits, difficult in sleeping, anxiety and worry and lower levels of self-esteem. Further analysis is in progress in order to validate the questionnaire.

THE ECC STATUS IN APULIAN CHILDREN: A PREVALENCE STUDY CONDUCTED IN 'POLICLINICO DI BARI'

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Aim: to quantify the presence of children affected by Early Childhood Caries (ECC) among the patients of the department of pediatric dentistry of 'Policlinico di Bari' during 2021.

ECC is defined by AAPD as the presence of 1 or more decayed, missing (due to caries), or filled tooth in a child of 6 years of age or younger.

Methods: the study included only patients under six years of age and in good general health. They underwent anamnestic examination with the cooperation of the parents and clinical examination.

Results: on a total of 47 patients under six years of age who visited the department of pediatric dentistry during 2021, 30 were affected by ECC with a prevalence of 63,8%. The anamnestic questionnaire showed that ECC was attributable to a

lack of prevention and incorrect dietary habits, with the aggravating factor of a significant diagnostic delay that could only partly be traced back to the pandemic situation.

In addition to oral problems as loss of vertical dimension, alteration of the correct occlusal relationships, these children had also general health issues such as difficulties in nutrition due to pain, daytime sleepiness and learning difficulties.

Conclusions: since the prevalence of patients with ECC is still high, we want to emphasize the importance of a multidisciplinary approach to child oral health, starting from pediatrician collaboration to increase the spread of prevention techniques and arriving to general dentists that must adopt the right approach to the young patient in order to gain his confidence and treat him as early as possible.

EFFECTS OF AN EDUCATIONAL BOOK ON PAEDIATRIC ORAL HEALTH KNOWLEDGE IN A SAMPLE OF WOMEN

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Aim: the primary objective of the study is to evaluate the educational effectiveness of the text on nutrition and prevention of oral diseases in a sample of about 100 women (\geq 18 years), potential caregivers of one or more children (mothers, grandmothers, baby-sitters, educators, etc.), resident in Italy.

Methods: the study is ongoing and the participants are enrolling. They are given a questionnaire of 30 multiple choice questions to be completed before reading the informative text. After they have to read the informative text "Oral health of mother and baby in the first 1000 days of life". At the end of the

reading they must answer the same questionnaire of 30 multiple choice questions.

Results: the first 1000 days of life, understood as the period between conception and the first 24 months of the child, are important for the oral and systemic health of the child and to set up serious and effective maternal and child prevention programs. Only in this way is it possible to reduce the incidence of both pregnancy-related diseases and those affecting children, and this is undoubtedly one of the greatest challenges in public health.

Conclusions: thanks to this information tool, we expect an improvement in caregivers' knowledge of oral health.

HYPER IG-E SYNDROME: A RARE GENETIC DISEASE THAT NEEDS THE PAEDIATRIC DENTIST

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Aim: the purpose of this work is to present a rare genetic syndrome, the Hyper Ig-E Syndrome (HIES), that involves facial and oral manifestations and to emphasize the role of the Pediatric Dentist within the multidisciplinary team for the care of these patients.

Methods: Hyper Ig-E syndrome is a hereditary genetic disease that affects 1/100,000 live births in Italy and as well as worldwide. HIES has 2 modes of inheritance, an autosomal dominant mode AD (type 1)-HIES, which seems to produce a less severe disease, and an autosomal recessive mode AR (type 2)-HIES that presents serious health conditions, often is even lethal. A newborn rash or eczema is frequently the first manifestation of AD-HIES. Many other infections can be associated such as candidiasis and herpes simplex virus 1.

Results: during growth, especially in AD (type 1)-HIES, other pathognomonic signs of the disease may appear, the most typical of which involves the face with the typical facial appearance called "Job's face". Facial asymmetry, broad nose, and deep-set eyes with a prominent forehead are commonly present. The facial skin has a rough appearance. Delayed exfoliation of deciduous teeth, oral fungal and viral infections, caries lesions, periodontal problems as well as malocclusions are also frequently found in these patients.

Conclusions: the characteristics of HIES and its clinical manifestations in the oral cavity require a multidisciplinary approach with the presence of a pediatric dentist in the therapeutic team in order to manage the oral manifestations of this complex pathology.

THE EFFECTIVENESS OF VISUAL PEDAGOGY IN ASD CHILDREN IN DENTISTRY

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Aim: the aim of this randomized double-blind clinical trial was to evaluate the effectiveness of two different visual aids to improve the collaboration of Autism Spectrum Disorders (ASDs) children during the first dental visit and a preventive procedure.

Methods: 84 ASD children (3-15 years) were randomly divided into two groups: the study group (n = 41) received a video-modelling based visual support, and the control group (n = 43) received a paper social story. The primary outcome was to evaluate patient cooperation measured by the number of steps completed (1-11 steps) and by the opinion of two pediatric dentists (blinded to patient allocation) according to the Frankl Behavioral Scale. The secondary outcome was to investigate the parent's opinion regarding the visual aid provided.

Results: patients in the study group completed on average more steps (7.98 ± 3.37) than patients in the control group (6.53 ± 3.51); the difference between groups was almost significant ($p = 0.059$). The percentage of patients who received a positive opinion on cooperation (score 3 or 4) was higher in the study group, both for the visit (56.12% vs 56.10%) and for the preventive procedure (53.66% vs 46.34%); however, these differences were not statistically significant. Parents considered the visual aid provided "very useful" or "quite useful" (78.05% in the study group and 76.74% in the control group).

Conclusions: both the visual aids resulted useful to improve collaboration of ASD children in the first dental visit.

ASTHMATIC PEDIATRIC PATIENTS AND DENTAL CARIES: AN OBSERVATIONAL STUDY

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Aim: asthma is a respiratory disease frequent in children. The treatment involves inhaled corticosteroids (ICS), short- or long-acting beta agonists or short- or long-acting muscarinic receptor agonists, administered in combination with ICS. The correlation between asthma medications and dental caries has been investigated in several studies. The administration of inhaled drugs alters saliva in quality and quantity. Saliva reduction increases caries risk, increasing cariogenic microbiota and reducing the physiological mechanism of tooth cleaning. Many inhaled drugs have sugar as an excipient, contributing to alter the plaque pH. Beta 2 agonists activate beta2 receptors in the salivary glands, promoting cyclic adenosine monophosphate production which reduces salivary secretion and protein synthesis.

Methods: all patients aged 4-14 years who required dental caries due to caries at the Bellaria Hospital in Bologna between January 2021 and January 2022 were investigated regarding asthma prevalence.

Results: among 860 children with dental caries, 17.44% (n = 150) reported to suffer of asthma. In particular, 78 children reported to suffer of mild intermittent asthma with occasional use of inhaled drugs, while 54 suffering of mild persistent asthma and 18 with moderate persistent asthma reported to use continuative inhaled drugs therapy.

Conclusions: the high percentage of asthmatic children among children with caries lesions confirms an association between the two conditions. Preventive caries measures need to be taken in children using inhaled bronchodilators and/or corticosteroids.

ORAL MANIFESTATIONS OF COVID-19 AND MULTISYSTEM INFLAMMATORY SYNDROME (MIS-C) IN PAEDIATRIC PATIENTS

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Aim: COVID-19 pandemic seems to affect pediatric population only marginally; nevertheless, a postviral immunologic reaction resulting in a multisystem inflammatory syndrome in children (MIS-C) has been well described as long-term side effect of COVID-19 in pediatric patients. To date, there is scarce knowledge of COVID-19 oral manifestations in childhood. The aim of this study was to investigate the oral manifestations in children during and after COVID-19.

Methods: twenty pediatric patients (average age 5.6 y.o.) were included in the current study. They were all hospitalized in the "Papa Giovanni XXIII Children Hospital" of Bari, 10 of them (Group 1) in the Infective Diseases Unit because of SARS-CoV-2 positivity, the other 10 (Group 2) in the Pediatric Unit due to the diagnosis of MIS-C. They all underwent oral examination, in order to evaluate the presence of oral lesions.

Results: considering patients of Group 1, only 1 presented an ulcerative and painful lesion on the lower lip, but it was probably due to dental trauma during an epileptic seizure, which was the cause of hospitalization. Differently, 5 patients of Group 2 presented swelling and redness of the labial mucosa, while 6 had strawberry tongue. All these signs were evaluated before the diagnosis of MIS-C.

Conclusions: several oral manifestations have been described in adults during COVID-19. In a different way, oral lesions are not frequent during SARS-CoV-2 infection in pediatric population, but they have been described in more than one-half of patients affected by MIS-C. So, they could be considered an early indicator of MIS-C, and dental care providers may have important role in the early diagnosis of MIS-C.

PREVALENCE OF RISK FOR OSA IN ADHD PEDIATRIC PATIENTS: A PROSPECTIVE STUDY

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Aim: obstructive sleep apnea syndrome (OSAS) is a sleep-related breathing disorder which may be associated to neuropsychological deficits in children. The purpose of the present study is to assess the prevalence of OSA risk in a population of pediatric patients with attention deficit hyperactivity disorder (ADHD).

Methods: fifteen ADHD children, 11 males and 4 females, aged between 7 and 12 years, were referred to the Pediatric dentistry department at the A. Gemelli Hospital for dental evaluation. Caregivers were asked to complete the Italian version

of the Pediatric Sleep Questionnaire (PSQ) in order to assess the risk of suffering from OSA.

Results: based on PSQ results, 60% of ADHD patients were found to present a high risk of suffering from OSA, compared to 9.7% of the general pediatric population. A significant difference was observed between the two groups.

Conclusions: the prevalence obtained shows that a high risk OSA is present in pediatric patients with ADHD, suggesting the need of a growing attention toward sleep disorders in the pediatric population.

FIRST NIGHT EFFECT IN PEDIATRIC PATIENTS

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Aim: polysomnography represents the gold standard for obstructive sleep apnea (OSA) diagnose. Aim of the present study is to evaluate whether there is a first night effect (FNE) in the pediatric population undergoing PSG for suspected OSA.

Methods: twenty pediatric patients, 9 males and 11 females, aged between 4 and 14 years, were recruited from the Pediatric dentistry department at the A. Gemelli Hospital to undergo PSG recording for suspected OSA. All patients were asked to record 2 consecutive nights. Apnea-hypopnea index (AHI), lowest oxygen desaturation and sleep duration were compared between the 2 nights.

Results: in 40% of patients a significant difference between

first and second night was observed with a variation in AHI that represents a change in OSA severity as described by the American Academy of Sleep Medicine. The factor presenting the strongest correlation to AHI variation is sleep duration. In 45% of patients a significant difference between first and second night was observed as far as lowest oxygen desaturation, presenting one night above 80% and another night below 80%, with no correlation to sleep duration.

Conclusions: in children and adolescents there is a FNE which may result in differences in OSA severity. Therefore, it is strongly suggested to provide 2 nights PSG recordings when suspecting OSA in pediatric patients.

EVALUATION OF PREVALENCE OF OSA RISKS AND MALOCCLUSIONS IN PATIENTS WITH NOONAN SYNDROME

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Aim: Noonan syndrome is rare congenital syndrome characterized by distinctive facial features, congenital heart disease and other comorbidities. The purpose of the present study is to assess the prevalence of OSA risk and malocclusion in a population of pediatric patients with Noonan syndrome.

Methods: six children with Noonan syndrome, two males and four females, median age of 12 years, were referred to the Pediatric dentistry department at the A. Gemelli Hospital for a complete dental evaluation. Caregivers were asked to comple-

te the Italian version of the Pediatric Sleep Questionnaire (PSQ) in order to assess the risk of suffering from OSA.

Results: based on PSQ results, none of patients presented a high risk of suffering from OSA. From the orthodontic evaluation 83% of Noonan patients presented a malocclusion, where class III malocclusion and maxillary constriction were the most common conditions observed.

Conclusions: patients with Noonan syndrome experience a high prevalence of malocclusion, but a low risk of OSA.

MICROSTRUCTURAL AND CHEMICAL ANALYSIS OF DECIDUOUS AND PERMANENT TEETH: A MULTIDISCIPLINARY APPROACH

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Aim: the present study aims to: 1) characterize the microstructure and chemical/elemental composition of deciduous and permanent human teeth, in terms of lingual and vestibular sites, and 2) validate a new multidisciplinary analytical and high-resolution approach for obtaining multiple information on calcified tissues.

Methods: Raman MicroSpectroscopy (RMS), Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectrometry (EDS), and Vickers microHardness (VMH) test were exploited to characterize the external lingual and vestibular surfaces of deciduous and permanent teeth, and the corresponding outer enamel, inner enamel and dentin.

Results: all applied techniques evidenced differences between permanent and deciduous teeth. SEM micrographs identified areas with irregular appearance in the vestibular and lingual surfaces, which presented also different VMH va-

lues. A different composition in terms of mineral/matrix and carbonates/phosphates ratios, and crystallinity of outer and inner enamel and dentin, both in deciduous and permanent teeth, were displayed by RMS. A good linear correlation was found between RMS spectral profiles and EDS and VMH measurements.

Conclusions: these results allow to improve knowledge on the chemical/elemental composition and microstructure of human teeth, and, thus, they could be useful in clinical practice to develop new strategies in restorative dentistry and in the choice of materials with the best performances. Moreover, the good correlation between VMH and EDS measurements and RMS spectral profiles suggested, for the first time, that RMS may be considered a useful and non-destructive diagnostic tool for obtaining multiple information on calcified tissues, in a reduced observation time.

MUSIC THERAPY IN PEDIATRIC DENTISTRY: A REVIEW

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Aim: uncooperative pediatric patients are difficult to treat chairside and create difficulties in completing treatment, increasing the duration of treatment and influencing its long-term prognosis. According to the literature, "dental phobia" is accentuated by various stimuli, such as auditory stimuli. There are both pharmacological and non-pharmacological methods that can reduce patient anxiety. Music therapy is one of the most studied non-pharmaceutical methods. The music, covering any other noise related to medical/surgical procedures, reduces anxiety, relaxing the patient. The aim of the review work is to evaluate the effectiveness of music therapy in reducing the level of anxiety in children during dental procedures.

Methods: a PubMed search for the last 10 years has been

conducted using the following keywords: "Music Therapy", "Effect Music Therapy", "Music Dentistry", "Children with Dental Anxiety". The search identified 26 documents, 5 of which were relevant to the review.

Results: the results show that listening to music acts on a biological and psychological level and has an impact on reducing patient anxiety during dental treatment, especially in pediatric patients. The included studies used several methods to measure dental anxiety, including the Venham image test and pulse oximetry.

Conclusions: there was substantial agreement between studies on the effectiveness of listening to music in reducing anxiety, systolic blood pressure and heart rate when performing standard dental treatments.

PRIMARY ERUPTION FAILURE: A REVIEW

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Aim: Primary Eruption Failure (PEF) is defined as an incomplete dental eruption despite the presence of a clear eruption route. The posterior teeth are the most affected, and generally, all teeth distal to the affected tooth show the disorder. Differential diagnosis should exclude systemic disorders or syndromes, other mechanical failures of eruption and isolated ankylosis. The aim of this review is to analyze the existing literature to evaluate the etiological, clinical and genetic characteristics of the PEF.

Methods: the literature search was performed using PubMed and Scopus. Overall, 50 articles were evaluated, but only 30 refer to PEF and were analyzed.

Results: in all studies molars and premolars were only involved in the disorder. The affected teeth were both permanent

and deciduous teeth. It was not possible to determine if the prevalence was different in males and females. Only 5 articles presented an association between PFE and hypodontia. Mutations in the PTH1R gene responsible for PFE were not present in all patients analyzed and not all had a family member with PFE. Tooth extraction is one of the key treatments, but segmental osteotomy and distraction osteogenesis can also be performed.

Conclusions: mono or bilateral posterior infraocclusion appears to be the hallmark of PFE. Treatment depends on the patient's age and clinical situation but should be evaluated in future clinical studies. A genetic test for the PTH1R gene mutation should be recommended before any orthodontic treatment to avoid the risk of ankylosis.

POSITIONAL PLAGIOCEPHALY AND ASSOCIATED STOMATOGNATHIC DISORDERS IN DEVELOPMENTAL AGE

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Aim: explore the relationship between positional plagiocephaly and associated stomatognathic disorders in developmental age. Prepare guidelines for safe sleep and plagiocephaly prevention for child health specialists. The aim of our study is also to develop a further study to compare the orthodontic situation in the primary dentition of children with positional plagiocephaly and children without cranial deformities.

Methods: a literature search was conducted using PubMed and Google Scholar using the following keywords: "positional plagiocephaly", "SIDS", "malocclusions", "primary dentition".

Results: the "back to sleep" campaign has drastically decreased the incidence of SIDS over the past two decades, but it has simultaneously led to an increase in proportions almost epidemic of cases of positional plagiocephaly. Currently, asymmetries of the neonatal skull are considered imperfections and as such must be prevented and treated. Positional plagiocephaly, cranial deformities, and postural torticollis in

newborns and infants are the most frequent asymmetries of posture and movement and are frequently associated with orofacial, orthodontic, and jaw disorders. The anatomical parts involved in the stomatognathic system represent a functional continuity, strongly related to the skull and the vertebral column, the highly sophisticated mechanical synergy between the parts makes it clear how an alteration of one of them has consequences on the others with a ripple effect.

Conclusions: in order to promote the health of the stomatognathic system and its related functions, pediatric dentists and orthodontics play an essential role in the prevention of potency plagiocephaly. For a good prognosis, it's essential to provide an accurate diagnosis, plagiocephaly screening pathway, and minimize the trigger factors. Positional plagiocephaly interfaces medicine and dentistry. As it is a common disorder, this etiology has to be considered in the prevention and therapy of malocclusion.

BREASTFEEDING: PHYSIOLOGICAL CONFORMATOR OF THE STOMATOGNATHIC SYSTEM

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Aim: identify an individual therapy strategy directly associated with the evolving orofacial musculature in developmental age in orthodontic and pediatric dentistry practice. Strengthen the cooperation between the dentists and the pediatricians. Exclusive breastfeeding for more than 6 months is recommended since it is linked to primary dental arch shaping and development in the anterior sagittal dental segment, as well as primary dentition horizontal arch width. Functional mother breastfeeding brings benefits to the development of the infant's oral cavity, which include prevention from oro-functional disorders.

Methods: a literature search was conducted using PubMed and Google Scholar using the following keywords: "breastfeeding", "oral cavity development", "malocclusion" in developmental age, "stomatognathic muscles", "pediatric dentistry", "pediatrics".

Results: the lack of breastfeeding is the etiopathogenesis of the pathologies of odontostomatological interest that manifest

themselves in early childhood, such as spoiled habits and malocclusions, which, moreover, represent a significant entity for multi- and interdisciplinary skills that involve the pediatrician in particular and the orthodontist. It has been observed that breastfed infants have a lower incidence of malocclusion, in fact, as ascertained by multiple studies, a prevalence of malocclusion in non-breastfed infants has been observed. The consequences of failure to breastfeed seem to determine only complications of an aesthetic nature, instead they represent orthodontic repercussions of a functional nature for the alterations that occur in the individual dental elements and in the growth of the stomatognathic system, involving all oral functions.

Conclusions: child dentists and orthodontists play an essential role in teaching and the promotion of mother breastfeeding. Functional mother breastfeeding brings benefits to the development of the infant's oral cavity and include prevention from oro-functional disorders.

IMPORTANCE OF VERTICAL TRANSMISSION OF MICROBIOTA: ORAL MICROBIOTA IN THE PERINATAL PERIOD

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Aim: general and oral health prevention begin in the prenatal period. A woman's oral health and her oral microbiota can directly affect her pregnancy, fetal development, and her babies' oral health. The purpose of this study is to provide an overview of the importance of vertical transmission of oral, vaginal and intestinal microbiota in the perinatal period and monitoring the health of the pregnant woman to prevent the onset of pathologies in developmental age and.

Methods: a literature search was conducted using PubMed and Google Scholar using the following keywords: "intestinal-vaginal-oral microbiota", "pregnant oral health", "women microbiota", "vertical transmission", "new-borns oral diseases", "Streptococcus mutans".

Results: one third of the human pathologies has a microbial origin. The most commonly studied oral organism in infants and children is *Streptococcus mutans*. The diet rich in sucrose and high maternal salivary counts of *S. mutans* were associated with increased colonization of children's oral microbiota. Children acquire *S. mutans* mainly by vertical transmission from the mother. Both edentulous and toothed children are more likely to harbor not only *S. mutans*, but also *Streptococcus sobrinus*, *Actinomyces species*, *Fusobacterium nucleatum*, *Prevotella intermedia* and *Porphyromonas gingivalis*.

Conclusions: dental control of the oral microbiota before and during pregnancy improves the quality of life of women and decreases the incidence of dental diseases in developmental age.

OBSTRUCTIVE SLEEP APNEA IN DEVELOPMENT AGE: FROM THE SCIENCE TO DAILY PEDIATRIC DENTISTRY

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Aim: encourage in defining the problems related to OSAS and intervene therapeutically by paying attention to the relative craniofacial characteristics: oral breathing, the elongated face, dental crowding, the high and narrow palate and collect elements concerning school performance, the ability to concentrate, the possible presence of bedwetting, poor appetite, obesity and recurrent infections of the airways. Emphasizing the importance of restoring normal nasal breathing is the stability of the effects of orthodontic treatment.

Methods: these keywords have been entered on the following search engines PubMed, Google Scholar: “obstructive sleep apnea syndrome”, “pediatric dentistry”, “stomatognathic disorders”.

Results: the pathophysiology of Obstructive Sleep Apnea Syndrome (OSAS) is complex and only partially known in pe-

diatric age and is characterized by repeated episodes of complete (apnea) or partial (hypopnea) cessation of air flow through the upper airways during sleep. We can describe the etiopathogenesis of OSAS as a multifactorial phenomenon where 3 main factors are combined: the structural abnormality of the upper pathways, decreased neuromuscular control, adenotonsillar hypertrophy and stomatognathic disorders. The prevalence of obstructive sleep apnea syndrome affects school-aged children in a percentage varies from 3% to 21%.

Conclusions: the specialty of child dentistry and orthodontics involves much more than just the teeth alignment and oral cavity health. As experts in craniofacial growth and development they have important rule in OSAS screening and in dentofacial components identifying, both to optimize the care of patients with OSAS.

A.R.T. AND OZONE-THERAPY: CARIOUS LESIONS TREATMENT AND PREVENTION PROTOCOL IN PEDODONTICS

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Aim: the aim of the study was to assess the effectiveness of ozone therapy in the treatment and prevention of caries in children and try to establish a correct protocol for use, reviewing only the clinical studies in literature.

Methods: a search was performed in the main databases, using keywords such as “ozone”, “caries”, “pediatric dentistry”, “primary teeth”. Only clinical studies on children’s teeth with a clear ozone therapy operative protocol (application time, form of ozone, its concentration and number of sessions) have been selected.

Results: from 90 articles found on ozone therapy, 10 published from 2004 to 2020 were selected and reviewed. The studies reported a follow up varying between 3 and 16 months. All

selected studies involve the use of ozone in gaseous form on the dental surface for a time varying from 10 to 120 seconds. The concentration, when specified, is 1,200 ppm. The number of sessions varies from 1 to 4. The results found by the selected studies are not unambiguous given the diversity of the articles. Preventive effectiveness of ozone, its antimicrobial power and its remineralization capacity were evaluated.

Conclusions: most of the clinical studies reported ozone to be a promising solution in caries management especially in anxious and special needs children. On the other hand a few studies have shown ozone to be insufficient for preventing caries and reducing microbial load in lesions. More evidence is required about its benefits and to establish a proper protocol of use.

ORAL MANIFESTATIONS OF HEMATOLOGICAL DISEASES IN CHILDREN

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Aim: the aim of this work is to describe the oral manifestations of hematological diseases in children.

Methods: a literature review was performed using PubMed (MEDLINE) database identifying published articles on orofacial manifestations of some hematologic diseases in children.

Results: primary oral alterations are identified in up to 90% of cases of acute myeloid leukemia and consist of petechiae, spontaneous bleeding, mucosal ulceration, gingival hypertrophy with or without necrosis, infections, haemorrhagic bullae on the tongue and cracked lips. Sick cell anemia is an inherited defect that affects the structure and synthesis of hemoglobin; oral and dental manifestations in children include orofacial pain, paresthesia of the mental nerve, stepladder appearance

of the alveolar bone on radiographs, pulpal necrosis and enamel hypomineralization. Studies have shown that individuals with sickle cell anemia have a high risk of developing a general or dental infection which could be responsible for precipitating sickle cell crises. Oral lesions can be the first manifestation of aplastic anemia. The most common oral manifestations of the disease were hemorrhage, candidiasis and viral infection.

Conclusions: oral lesions may be the first signs of hematologic diseases. Oral hygiene is an important measure to prevent infections that are at risk for abscess formation or sepsis. Thorough history taking and physical examination by dentists may aid in determining the underlying etiology of oral changes and allow for earlier intervention by medical colleagues.

DROOLING: A NARRATIVE REVIEW OF EFFECTS ON CHILDREN'S ORAL HEALTH

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Aim: drooling is an uncontrolled overflowing of saliva from the mouth. It is considered a pathologic condition if it persists after the age of 4 years. It is mainly due to neurological diseases, like cerebral palsy, or local orofacial problems, like lip incompetency, oral breathing, macroglossia and atypical swallowing reflex. The aim of this work is to evaluate consequences of drooling and its treatment to improve children's oral health.

Methods: a review of the literature was conducted through PubMed, Scopus and Web of Science databases, to identify articles concerning drooling and oral health.

Results: children affected by drooling may suffer of perioral skin breakdown and infections (candidiasis in particular). Patients undergoing salivary glands surgery to treat drooling, pre-

sented higher percentages of white spot lesions because of the reduced salivary flow rate and higher salivary osmolality. Pseudo-bulbar palsy, orofacial incoordination and hypotonia, which are often correlated to drooling, may present a higher risk of developing malocclusions with prominent maxillary incisors and incompetent lips. Those factors represent local risks that further predisposing to dental trauma.

Conclusions: children pathologically affected by drooling are often affected by a cluster of conditions that compromise the oral health beside drooling itself. Surgery treatment can lead to higher white spot prevalence with the connected weakening of the enamel. A particularly careful follow up by a dental practitioner may be needed to prevent the development of oral diseases.

ORAL FEATURES OF PAEDIATRIC PATIENTS AFFECTED BY DOWN SYNDROME

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Aim: Down Syndrome (DS) is a chromosomal abnormality caused by the presence of a third chromosome 21. Systemic clinical features include congenital heart defects, metabolic disorders and deficiencies in the immune system; oral health condition include reduced prevalence of caries and high prevalence of gingivitis and periodontitis. The aim of this study is to evaluate oral health status in a pediatric population.

Methods: 40 patients (20 males and 20 females) with Down Syndrome, aged 3-18 years (10.26 ± 3.97) were included in the study. All patients have been treated at the Section of Pediatric Dentistry at the Dental School-University of Turin. Out of the 40 subjects initially recruited, six were excluded due to a lack of cooperation. All were examined by the same operator and the

clinical procedures were performed using an oral mirror, a dental probe and a periodontal probe. DMFT/dmft indices, Plaque Control Record (PCR), Full Mouth Bleeding Score (FMBS) and Gingival Index (GI) were evaluated.

Results: the final sample included 34 patients (17 males and 17 females) The prevalence of subjects affected by caries was 23.35%; the mean Plaque Control Record was $56\% \pm 0.27\%$, the mean FMBS was $24\% \pm 0.14\%$, with a GI of 62%.

Conclusions: our investigation shows how patients affected by Down Syndrome are particularly susceptible to plaque and gingival bleeding. Follow-up procedures are essential in monitoring oral conditions, particularly in pediatric age patients; guardians and caregivers must be informed about the complications related to poor oral hygiene conditions.

CRANIOFACIAL GROWTH IN BECKWITH-WIEDEMANN SYNDROME PATIENTS

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Aim: Beckwith-Wiedemann Syndrome (BWS) is a rare congenital overgrowth disorder characterized by omphalocele, gigantism and macroglossia that may lead to malocclusion. The aim of this cross-sectional study was to assess any association between the genetic pattern and maxillo-facial growth in Caucasian BWS children.

Methods: BWS patients referred to Section of Pediatric Dentistry at University of Turin were recruited for this study and underwent a complete dental examination. Cast models, orthopantomography and lateral telerradiographs of the head were taken for each patient who did not undertake tongue reduction surgery and orthodontic treatment before. Cephalometric measurements using Björk-Jarabak's analysis were performed. According to the genetic diagnosis, BWS patients

were classified, and a statistical analysis were carried out.

Results: 25 Caucasian BWS children satisfy inclusion criteria; 12 patients had a loss of methylation at imprinting center 2 (IC2-LoM), 5 had mosaic paternal uniparental isodisomy of chromosome 11 (UPD(11)pat), and 8 had negative genotype. BWS children with IC2-LoM and negative genotype showed marked macroglossia, hyperdivergence values $> 30^\circ$, clockwise growth tendency, and skeletal class II into the same cluster while UPD(11)pat patients showed mild macroglossia ($p = 0.048$).

Conclusions: according to the result of our preliminary study, the IC2-LoM subtype seems to have a negative skeletal growth prognostic pattern and consequently they should need early and individualized protocols for monitoring craniofacial growth to prevent malocclusion.