

ABSTRACT

Impact of BMI increase in child oral health

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BACKGROUND: The purpose of the study is to highlight the presence of a correlation between an increase BMI and oral health in pediatric subjects. The data collection necessary for the research took place using computerized record.

METHODS: For this study a sample of 262 children with age range from 5 to 14 years was analyzed.

Inclusion criteria:

Body Mass Index (BMI) > 5^o percentile

Exclusion criteria

BMI < 5^o percentile

Pazienti with systemic disease

The discriminating parameter for determining the test sample and the control group is the BMI. According to these criteria, a sample of 250 patients, divided into two groups is defined: a test sample (BMI > 85^o percentile) of 114 patients and a control group (5^o > BMI < 85^o percentile) of 136 patients. All children's parents were informed, both verbally and by a written consensus, of the objective of the study, which would include the patient's anamnestic data and a clinical dental examination. The collected data were selected: gingival index, oral hygiene level, decay prevalence and oral breathing.

RESULTS:

GINGIVAL INDEX:

(Sample test: 7.9% absence of gingivitis, 53.5% mild degree, 32.4% moderate degree, 6.1% severe degree / control group: 3.7% absence of gingivitis, 68.1% mild degree, 20% moderate degree, 8.1% severe degree).

ORAL HYGIENE LEVEL:

(test sample 12.28% absence of plaque, 57.01% modic presence of plaque, 23.68% presence of plaque, 7.01% presence of plaque and tartar / control group 11.11% absence of plaque, 56, 3% modest presence of plaque, 24.44% presence of plaque, 8.15% presence of plaque and tartar).

DECAY PREVALENCE:

(Test sample 34.18%: deciduous dentition 40%, mixed dentition 35.44%, permanent dentition 30%; control group 35.3%: deciduous dentition 33.34%, mixed dentition 41.66%, permanent dentition 22, 23%)

ORAL BREATHING:

(15.8% test sample / 5.92% control group)

From the data collected through the percentage analysis of the two groups, it is clear that patients with absence of gingivitis and moderate gingivitis are more frequent in the sample than in the control group, which has a higher percentage in the mild degree, while the data are similar in the severe degree in both groups. The data regarding oral hygiene levels showed similar results. With regard to the decay prevalence, in both groups the percentages are similar, specifically the test sample shows a greater percentage in the permanent dentition and in the deciduous one compared to the control group which has a higher frequency of caries in mixed dentition. From this, it could be seen the non-correlation between the oral hygiene level and the BMI as well as the BMI and the prevalence of carious lesions. Lastly, the test sample has a higher percentage of patients with oral breathing than the control group.

CONCLUSIONS: Currently, the results found through the computerized record are still being updated and reviewed, in order to refine this tool to offer a contribution to the pediatric dentist who approaches the small overweight patient, framing him it entirely.

Are cesarean section and AB0 group related to caries severity? A retrospective cross-sectional study on italian children

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BACKGROUND: Mode of delivery affects child's general health, moreover a connection between several diseases and different AB0 blood group was speculated. This preliminary epidemiological retrospective cross-sectional survey was aimed to investigate the potential associations between mode of delivery AB0 blood group and early childhood caries in a group of Italian toddlers.

METHODS: From Medical Birth Chart (2013-14), data on the mode of delivery and AB0 blood group was collected and on Italian toddlers living in Sardinia (n=6775) aged 24–30 months were recruited. Power analysis was performed (3.1.9.2 for Apple G*Power software) prevalence ratio added to 40% to safeguard against the risk of disease spread, an error probability of 0.05 and actual power of 0.95. The total sample size was set to 236. 2191 were invited to participate and 244 toddlers were examined. Caries lesions were recorded using the International Caries Detection and Assessment System (ICDAS) by calibrated examiners -Italian study group on ECC- (Cohen Kappa from 0.85 to 0.91). Caries severity (CS) was calculated as the summation of ICDAS multiplied by the number of lesions [$\sum(0-6)ICDAS(score)*n(lesions)$]. The non-parametric Mann-Whitney U test was used for between-group comparisons.

RESULTS: 47.80% (n = 117) of children was delivered via caesarean section, while 52.20% (n = 127) was vaginally delivered. Caries severity (CS=3.66±6.59) was higher in children delivered by caesarean section compared to children vaginally delivered (CS=3.03±5.52) p>0.05. Caries severity was statistically significantly lower (p<0.02) in toddlers with AB blood group (CS=1.86±2.34), followed by toddlers with A blood group (CS=2.29±4.41) and toddlers with 0 blood group (CS=2.75±5.34); and toddlers with B blood group showed the highest caries severity (CS=3.60±6.24).

CONCLUSIONS: The study failed to prove an association between CS and delivery modalities biased by the high frequency of CS observed. A higher caries severity level was observed in toddlers with B blood group.

Bisphosphonates therapy in children with osteogenesis imperfecta: clinical experience in oral surgery

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BACKGROUND: To define the possible oral surgery complications in growing patients affected by type I of

Osteogenesis Imperfecta (OI) and treated with bisphosphonates (BP). We focused our observation from simpler procedures such as abt of the tartar in which it is expected to have gingival bleeding, or the simple extraction, to the most complex and invasive procedures as complicated extractions such as germectomy or the application of orthodontic mini-implants. METHODS: The study was conducted among 20 patients in childhood with 8-14 years old (12 males e 8 females) affected by OI. Patients were initially evaluated at the Policlinico Umberto I, University Hospital of Rome, Rare Disease Center Skeletal Dysplasia-Bone Metabolic Pathologies and after at the Policlinico Umberto I, University Hospital of Rome, Head and Neck Department, UOC Pediatric Dentistry. Patients underwent specialist examination, were prescribed first and second radiographic investigations based on clinical need and hence dental care plans were drawn up in collaboration with the pediatric specialist. The therapeutic use of BP in compliance with a scientifically validated protocol is evaluated in relation to a clinical history that has one of the following conditions occurring in the two years prior to observation. The BP certificated in Italy is neridronate (Nerixia®), administered intravenously to quarterly cycles.

RESULTS: From this experience, we showed that a multidisciplinary approach of pediatric dentist and pediatrician can manage these patients from the risk of post-operative complications, such as onj, soft tissue infection, intraoral and extraoral fistulas, failure to heal the post-extractive sockets, delayed but complete healing of the post-extractive sockets, infections, post-operative pain and swelling, purulent discharge and pathological fractures. The follow-up, ranging from a minimum of 2 years to a maximum of 5 years, have not demonstrated the presence of particular complications or healing defects.

CONCLUSIONS: Based on the clinical experiences of the patients recruited at the Policlinico Umberto I, University Hospital of Rome, Head and Neck Department, UOC Pediatric Dentistry, and based on the literature reviews, it is not yet possible to define scientifically validated protocols or guidelines for the management of the developing age patient with OI that needs oral surgery. The clinical experiences observed in these patients are encouraging because no post-operative complications have been observed compared to patients not affected by OI. In the management of these patients, it must be important the collaboration with the pediatric specialist in order to optimize the response time according to drug therapy, monitor healing with close controls, assess the actual need for some interventions, the risks of complications and perform remote follow up.

Anesthesia in pediatric dental surgery: effects of a computer controlled delivery system on pain and heart rate. A randomized clinical trial

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BACKGROUND: The administration of local anesthesia by conventional syringe injection is the most commonly used method in dentistry. Since that fear of injections is constantly reported by dental patients, the objective of newest technologies should always be to reduce pain and anxiety connected with dental care procedures. This randomized clinical study

aims to evaluate pain perception and heart rate changes during dental anesthesia administration in children, using a computer controlled device (Wandá) compared to the traditional syringe.

METHODS: This double-blind split-mouth study enrolled a population of seventy-six children, aged 5 to 12 years, requiring local anesthesia for dental extractions. All of them were in good general health state without contraindications to local anesthetics. Mepivacaine 2% with adrenaline (1:100.000) was given as intraligamentary injection. Each half of maxilla was anesthetized with a different technique in the same appointment and the order was randomly selected according to a sequence generated by a PC. The authors' hypothesis was that the controlled anesthetic flow rate could result in virtually imperceptible injections. The outcomes considered were the pain perception during injections and the heart rate (HR) changes before and after the procedure. These data were evaluated and a paired *t*-test was used to assess statistical significance for each outcome.

RESULTS: Dental anesthesia was administered with both devices and data from primary and secondary outcomes were collected and analyzed for all participants since there were no dropouts. The computerized delivery system registered significantly lower pain levels as compared to conventional injection technique. Moreover, a statistically significant increase in the HR (2.38 bpm/m) was registered when comparing traditional local anesthetic technique with the Wand® system. A high percentage of patients (27%) anesthetized with traditional syringe technique required a second injection.

CONCLUSIONS: The results of this study suggest that dental anesthesia administered using a computer controlled delivery system in children successfully reduced pain more than the conventional syringe. The findings of this study, even if limited to dental surgery procedures, should be strongly considered by dentists, in view of the constant effort to ensure a painless dental care, especially in paediatric dentistry. Further studies are needed to confirm these findings in order to include the Wand® system in routine dental practice.

Successfully synergy between invisalign® technique and speech therapy in a class III malocclusion orthodontic treatment

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BACKGROUND: Malocclusion of the teeth and the broader spectrum of dentofacial deformities are due, of course, to an interplay between innate genetic factors and external environmental factors (i.e. resting pressures of cheek and tongue). The environment of the teeth and alveolar bone includes conflicting forces and pressures, primarily from muscular functions and oral habits, which in part determine tooth position. In growing patients, the neuromuscular environment may influence jaw posture, teeth eruption and occlusal relationships. We aim to report a class III case, where invisible aligners and myofunctional therapy were performed to re-establish a proper occlusion and function. METHODS: The patient, in the first visit, was 11 years and 8 months-old and was in late mixed dentition. She presented a not hereditary skeletal and dental class III (ANB -3° and