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Prevalence of imperfect amelogenesis cases in a paediatric population of the paediatric dentistry clinic of IUEM

G. Kizi, O. Toga, A.R. Barata, A. Castaño Séiquer & I. Ventura

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before and after the viscosupplementation and again, after 1 month of the occlusal splint use. The same thing was done with the DC/TMD protocol.
Results: According to the OHIP-14 questionnaire, before treatment the patient mainly referred the articular pain that she felt during mastication. After the first viscosupplementation session and the new OHIP-14 questionnaire application, the patient referred substantial improvements on the pain during function. However, she expressed her concerns with the expectations of the treatment. After 1 month of occlusal splint use her concerns were gone and pain during function did not come back.
Discussion and conclusions: Disc displacements should be carefully evaluated before the prescription of an anterior repositioning splint. However, in cases like this, they are indicated [5]. In this case, viscosupplementation was used in the beginning of treatment to allow the TMJ to recover function without limitations and restoring a dynamic lubrification. Treatment of TMJ disfunctions should be conservative and always multidisciplinary.

CONTACT M. Alberto mariana.alberto22@gmail.com

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Prevalence of imperfect amelogenesis cases in a paediatric population of the paediatric dentistry clinic of IUEM

G. Kizi[a], O. Toga[b], A.R. Barata[a], A. Castaño Séiquer[c] and I. Ventura[a]

[a]Centro de Investigação Interdisciplinar Egas Moniz (CiiEM), Egas Moniz Cooperativa de Ensino Superior, Caparica, Portugal; [b]Instituto Universitário Egas Moniz (IUEM), Egas Moniz Cooperativa de Ensino Superior, Caparica, Caparica, Portugal; [c]Family and Community Dentistry, Sevilla University, Spain

ABSTRACT
Introduction: The imperfect amelogenesis (IA) is a heterogeneous group of changes that mainly affect the structure of the enamel. It can occur in the deciduous and permanent dentition and presents a variation of phenotype, associated or not to a syndrome [1,2]. The aim of this study is to evaluate the prevalence of IA in patients who were observed for the first time in the Egas Moniz University Clinic and to describe which teeth are most affected. Variables such as sex, age, oral hygiene, diet and DMFT index (decay-missing-filling-teeth) were evaluated. DMFT index was analysed in order to determine if in the presence of enamel changes, correct oral hygiene and low sugar diet, the DMFT index remains high, to determine if the enamel changes have an impact on dental caries in the absence of external factors.
Materials and methods: The study was approved by an Ethics Committee of Egas Moniz and a written consent was obtained from all participants.The sample consisted of 100 children who attended Egas Moniz paediatric dentistry, for the first time, over a two-year period (2015–2017). Inclusion criteria were: Children without craniofacial changes and that the parents have signed the informed consent. Data were analysed by using descriptive and inferential methodologies. A significance level of 5% was established in the latter case.
Results: The mean age was 10.2 years, ranging from 6 to 18 years. The majority (55%) was male and 45% was female. Permanent dentition is the most prevalent (52%), followed by mixed (30%) and deciduous (18%). Of the total sample, it was observed 14% of patients with IA. The permanent dentition presents 50% of IA, followed by 42.9% in the deciduous dentition, reducing in the mixed dentition (7,10%). The most affected teeth were the second upper molars with a

percentage of 13%. Regarding the relation of the changes with the gender, age, DMFT index, and distribution by quadrants, did not show statistically significant differences ($p > .05$).

Discussion and Conclusions: In this study, the prevalence of IA was higher than in other studies that revealed values of 0.3%, 0.5% and 0.27% [2–4], but close to Temilola et al. found 16.1% of cases of IA in a paediatric population in Nigeria [5]. There was no statistically significant relationship between DMFT and IA in the present study ($p \geq .05$). Other studies have demonstrated a relationship between hyponeralization of the enamel and increased risk of caries [2,3].

The high prevalence of AI found in this study may be due to the fact that the majority of patients, with suspected rare alterations of the dental tissues, are frequently sent, to the consultation of the Egas Moniz Dental Clinic by family doctors, paediatrics and other dentists.

When the dentist attends these cases, he must establish the diagnosis, inform the patient, and recommend the therapeutic approach that may have a multidisciplinary involvement.

CONTACT G. Kizi gunelkizi@outlook.com

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Restorative materials without Bis-GMA – myth or reality?

Hermano Garcia[a], Inês Caldeira Fernandes[a,b], Jorge Caldeira[a,b], Alexandra Pinto[a,b], Inês Carpinteiro[a,b] and Ana Azul[a,b]

[a]Instituto Universitário Egas Moniz (IUEM), Egas Moniz Cooperativa de Ensino Superior, Caparica, Portugal; [b]Centro de Investigação Interdisciplinar Egas Moniz (CiiEM), Egas Moniz Cooperativa de Ensino Superior, Caparica, Portugal

ABSTRACT

Introduction: The Bis-GMA, which is known to possess toxic properties to the human body, is part of the chemical structure of several direct dental restorative materials [1]. However, currently, there are composite resins on the market that are free of this monomer [2]. From the dental resin are released many other compounds [3]. The aim of this study was to analyse the composition of restorative materials from three different brands, and to verify whether or not Bis-GMA monomers are present in their composition.

Materials and methods: Samples of the Enamel *plus* HRi® Universal Dentine (Micerium), Enamel *plus* HRi® Bio Function (Micerium), Filtek® One Bulk Fill Restorative (3 M ESPE) and Admira® Fusion (VOCO) resins were prepared using three different methods: light-curing resin specimens placed for 18 min in an ethanol/water solution; light-curing resin specimens placed for 180 min in an ethanol/water solution; resin samples eluted in an acetonitrile solution without being photopolymerized. These samples were analysed using the HPLC (High Performance Liquid Chromatography) technique.

Results: HEMA, Bis-GMA and UDMA monomers were found in the composite resin Enamel *plus* HRi® Universal Dentine (Micerium); UDMA monomers were detected in Enamel *plus* HRi® Bio Function (Micerium); UDMA and TEGDMA monomers were revealed in Filtek® One Bulk Fill Restorative (3 M ESPE), and HEMA and UDMA peaks were obtained in Admira® Fusion (VOCO).

Discussion and conclusions: The release of most of the residual monomers occurs in the first minutes after polymerisation. As shown in the results, the difference of the concentrations of monomers, detected by the HPLC method, between the resins eluted during 18 min and 180 min, was not significant. It was concluded that in samples of non-polymerized resins, it is possible to detect a larger number of residual monomers, and that Bis-GMA is only present in Enamel *plus* HRi® Universal Dentine (Micerium) resin.

CONTACT Hermano Garcia hermanogarcia46@gmail.com